

Railway Age

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B. & O. Extends Scope of Co-operative Plan

IN an article published in the Baltimore & Ohio Magazine for February, which is reprinted elsewhere in this issue of the *Railway Age*, E. W. Scheer, general manager of the Eastern lines of the Baltimore & Ohio, tells of the application of the well-known "B. & O. plan" of employee-management co-operation, heretofore applied only in the shops, to the transportation and maintenance-of-way departments as well. According to Mr. Scheer, "No one can look at the success which the Baltimore & Ohio has had in the last two years and not agree that co-operation has been a very important factor in that success. . . . The very splendid results obtained by our motive power department through their co-operative meetings, point the way to how the same results may be obtained in the C. T. and M. of W. departments." Such meetings have been arranged for in these departments and some have already been held. The general tone of Mr. Scheer's article leaves no doubt as to his optimism for the success of the plan in its wider application.

A Survey of Suburban Service Throughout the World

AS has been suggested previously in these columns, American railroads which are called upon to operate suburban passenger service and who do not find it remunerative might perhaps find it to their advantage to study some of the methods used in those countries where such business is sufficiently profitable to lead the railways to compete for it. The subject of this service is scheduled for discussion at the International Railway Congress in London this summer, a fact which would suggest the profitableness of attendance by officers of roads on this continent which operate such service. The subject is to be reported upon by several railway officers from various parts of the world and one of the papers to be submitted, that covering practice in Great Britain, the British Dominions and the United States, has been published in the January issue of the Bulletin of the International Railway Congress. This report was prepared by E. C. Cox, chief operating superintendent of the Southern Railway (England), and A. R. Cooper, chief engineer of the Metropolitan District Railway (London), and was based on replies to a questionnaire sent out to railways in the countries covered. If the other papers and the discussion at the Congress are kept up to the high plane set by this report, then not only railroad officers, but members of municipal and state councils charged with the solution of metropolitan and suburban transportation problems, stand to profit by following the proceedings closely. The variation in the methods employed by the various railroads in handling this traffic are shown by this report to be widely dissimilar even in the same country. Fares vary, station and terminal lay-outs

vary, the design of equipment varies, speed and frequency of service differ widely. For example, the square feet of floor space per passenger seat on most American roads reported upon is in the neighborhood of 8; on the Great Eastern (England) it is less than 4. Is it not possible that such comparisons as this and others contained in this report may carry suggestions as to some ways by which this traffic may be handled profitably?

Policemen at Highway Crossings

THE problem of safety at highway crossings is one in which the public—that is, the cities and towns—and the railroads are jointly concerned, and for that reason is constantly liable to fruitless discussion in which one party "passes the buck" to the other. The great need is for a general diffusion of accurate information on simple points which every citizen can and should understand. A recent instance appears in the following letter:

SYRACUSE, N. Y.

To the Editor:

Syracuse has a grade crossing where there is real protection and safety, without the friction or doubt or dissatisfaction such as seems to be common at many city crossings. Why cannot the railroads and the cities get together in this way everywhere, and thus make life a little more worth living? This crossing is on the four-track main line of the New York Central, near the passenger station. There are six tracks altogether, I believe. The watchman is a city policeman, and he guides traffic exactly as he would at the intersection of two streets in the business center of the city. He stands in the center of the street and in the center of the railway with the usual "Go and Stop" signal on a vertical spindle. When he turns the "Go" sign to face the swarm of automobiles which gathers while a train is passing, they go; and the railroad trains are halted; and when he changes the sign, and the automobile crowd see "stop," they stop.

All drivers are in the habit of obeying policemen. (Even the reckless ones manifest a good deal of respect for the law when they are in a crowded city where they know that they are being watched.) The uniform—the badge of authority—is a great promoter of decent behavior. Is not the crossing problem quite simple after all? Again, I say, why not this efficiency everywhere?

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Syracuse is to be congratulated. Assuming that that crossing cannot be abolished, the presence of an absolute monarch, who is always obeyed, is a great boon to all concerned. But generalizing from this one case must be indulged with caution. In the first place, the crossing is close to the station; all trains can be moved slowly. The public would not submit to riding as slowly over all crossings. An officer of the New York Central says that the "Go" and "Stop" legends are not used, with any authoritative meaning, toward enginemen. In other words, the watchman gives trains the preference over street traffic precisely as is done at any other crossing. Secondly, the crossing is a very busy one and the employment of a policeman is the appropriate thing. At the great majority of crossings such protection would increase the cost, probably, from 50 to 100 per cent. A policeman who is competent to enforce his directions by his commanding appearance (plus the people's knowledge that he has the commonwealth at his back) cannot be hired regularly for ordinary watchman's wages. He can find a more satisfactory job. And, as we have sug-

gested, his salary, if he could be hired, should be a tax, not on the railroads alone, but partly on the city. That the railroads pay the whole of the cost at most crossings is not to be taken as evidence that this is an equitable arrangement. Anything that calls for money out of the city treasury very quickly encounters opposition in a city council. A question arises also as to the general delegation of police power to crossing watchmen, which would be interpreted by most people as a delegation to the railroad company. Everybody is jealous at the sight of restrictions imposed by railroads. The success of city police in regulating street traffic is based in considerable degree on pretty arbitrary conduct. Citizens submit to repressive acts at which they would rebel if the same were done by a railroad; it is so very easy to call the railroad to account before a committee of the legislature. As a practical matter, police protection is a costly feature of civic life. Every city administration desires more policemen than the voters are willing to pay for. And, but for the lawless element, a boy of ten years could attend to a crossing. In England this service is actually performed in some cases by aged women.

Save That Pound of Coal

IN announcing a fuel economy slogan contest on the Northern Pacific, the statement was made that a scoop of coal dumped with the ashes each time a Northern Pacific locomotive is cleaned would cost the road \$15,000 a year, and a single pound wasted daily in each station stove would cost \$7,000 a year. It is well to emphasize again and again the great aggregate cost of minor fuel wastes on the railroads and it is particularly important to bring the facts home to all railroad men by simple, readily understood figures such as the Northern Pacific has used. Plainly, many railroad employees at the present time either do not comprehend the necessity of saving so small an amount of coal as one pound or else they are indifferent and do not care how much is wasted. One more or less prolific source of waste is occasioned by the overloading of tenders, causing coal to be dropped along the right-of-way when trains are in motion. Firemen are also sometimes careless in allowing coal to fall out of the gangway between the engine and tender. An unusually "horrible example" was observed at a large mid-west terminal recently where the ground along four switching tracks adjacent to the enginehouse was so generously sprinkled with large and small lumps of coal that in a comparatively short distance a laborer could have picked up 300 or possibly 500 lb. It may be said that this coal would eventually be picked up and used. If so, the labor cost would about offset the value of the coal so that the logical place to stop this fuel waste is at its source. There are legitimate reasons why it is often and perhaps usually desirable for a locomotive to start with a full tender of coal and water. In some cases the performance of engine crews as regards fuel consumption is based on the amount of coal left in the tender at the end of a run and it is to the advantage of the crew, therefore, to start with as much coal as the tender will hold. On extended engine runs, the distance between coal stops is frequently such as to require taking on a full load of coal at each point. In the final analysis, however, there is no reason why locomotive tenders should be overloaded at coal chutes to such an extent that coal drops to the track and is wasted. If necessary to increase the tender capacity, side boards can sometimes be provided. No method will be successful in overcoming the trouble, however, which does not include teaching coal chute operators and other railroad employees who have to do with the coaling

of locomotives to understand the importance of saving every pound of coal possible. In some way they must be inspired to *want* to save it.

Minding Your Own Business

ASOMEWHAT different phase of the general theme of co-operation from that which we are accustomed to hear was recently emphasized by an officer in charge of the purchases and stores department. It is an understood policy of the various departments on the road with which this officer is connected to strive for perfection each within their own ranks and not to criticize the work of the other departments. The stores department does not undertake to tell the mechanical department how it should handle its locomotive repairs and likewise, nor does the mechanical department volunteer suggestions as to how the stores department should handle its material. In other words, each department attends to its own business. The wisdom of this policy, as an excellent means of obtaining better co-operation, has been fully justified by the results. The average department head, with the co-operation of his assistants and working force, is usually capable of taking care of his own responsibilities. Advice from others is seldom appreciated and is sometimes resented. The best kind of co-operation can not be obtained by telling the other fellow what he ought to do, but by attending effectively to one's own business.

Railways Are "Coming Back"

THE railways finally are "coming back" financially because of economies that are being effected in their management and operation. Complete statistics regarding revenues and expenses in 1924 which have become available within the last week show that their operating expenses in 1924 were almost \$387,000,000 less than in 1923. They show that operating expenses were \$1,270,000,000 less than in 1920 when they reached their peak.

It is a striking fact that only a comparatively small part of the great reduction in expenses which has been made within the last four years has been accomplished by reducing the annual incomes of railway employees. The average wage per employee in 1920 was \$1,820 and in 1924, \$1,610, a reduction of \$210 per employee. The average number of employees in 1924 was about 1,781,000 and therefore the saving due to the reduction in the annual average wage was about \$373,000,000. The average number of employees was about 242,000 less than in 1920 and this reduction in the number of employees saved on the basis of the average wage paid in 1924, about \$390,000,000.

Another large saving was made in the fuel bill. The railways consumed less fuel than in 1920 and paid a lower average price per ton for it with the result that their fuel bill was about \$265,000,000 less than in 1920.

The foregoing figures account for more than \$1,000,000,000 of the four years' reduction of operating expenses. The rest of it was due principally to reductions in prices paid for materials and supplies and to reductions of loss and damage to freight. More than 70 per cent of the total reduction of operating expenses since 1920 is shown by the figures to have been due to causes other than reductions in the rates of wages paid to employees.

Of the reduction in expenses in 1924 as compared with 1923 about \$136,000,000 was due to curtailment of the payroll, the number of employees having averaged about 64,000 less than in 1923. Because of smaller consumption of fuel and lower prices the fuel bill was reduced al-

most \$120,000,000. These figures account for two-thirds of the reduction in expenses in 1924 as compared with 1923. The rest of the saving was due principally to lower prices of materials and supplies.

The railways have never yet in any year earned the 5¾ per cent net return on their valuation to which the Interstate Commerce Commission has held they are entitled. Because of the great economies in operation that have been effected they have been earning, however, at almost this rate during the last six months. Rates should not be reduced until it has been demonstrated that reductions of rates will not prevent them from earning this average return annually in future. Meantime the increases in efficiency and economy of operation that have been going on for four years and are still going on should be a sufficient demonstration to the public that the only sure way to bring about substantial reductions of rates is to give railway managers a chance to raise and invest needed capital and do other things required to secure maximum economy in operation.

Regulation and Politics

THE difficulty of maintaining a fair, reasonable and constructive policy of railway regulation has been strikingly illustrated by a series of developments which have occurred recently. The American public has rejected government ownership and management principally because it has been convinced that political influences would make efficient and economical management by the government impossible. The developments referred to have shown, as has been shown on previous occasions, that there is always danger that regulation will likewise be made subject to malign and destructive political influences.

The so-called "surcharge" on Pullman tickets has been the object of almost constant attacks ever since it was put into effect. The Interstate Commerce Commission was created especially to investigate and determine what rates for all classes of service it would be reasonable for the railways to charge and to fix rates accordingly. Its creation and the authority given it are predicated upon the generally accepted proposition that because Congress has many matters of different kinds to deal with, is not composed of men having an expert knowledge of transportation matters, does not have time thoroughly to investigate such matters and is subject to political influences, it is not itself competent to solve the problems presented by the regulation of railways and that therefore regulation should be delegated to a special body which can study transportation problems constantly and settle them in accordance with the expert knowledge acquired by it.

The Commission made one of the most exhaustive investigations of the Pullman surcharge that it has ever made. It decided that on the basis of the cost and value of the service rendered, and in view of the net return being earned by the railways, the surcharge was reasonable. All this was in strict accordance with the principles upon which our policy of government regulation is based and with the statutory provisions enacted by Congress itself under which the Commission acts.

But the surcharge is unpopular. Therefore, the politicians in the Senate tacked a bill to abolish the surcharge upon an appropriation bill and promptly passed it. This action of the Senate completely disregarded the decision of the Commission which the Senate itself helped to create to decide such matters. The surcharge bill was tacked upon an appropriation bill because it was believed that an independent surcharge bill could not be passed but that the appropriation bill would have to be passed and would

carry the surcharge bill through with it. The method adopted was an unscrupulous political maneuver the success of which would not only violate every sound principle of railway regulation but also every sound principle of federal legislation.

The House Committee on Interstate Commerce, after long hearings, by a large majority tabled the Gooding long and short haul bill. Senator Gooding immediately took steps to get it tacked on the Cape Cod Canal bill. Representative Winslow of Massachusetts is chairman of the House Committee on Interstate Commerce. He is in favor of the Cape Cod Canal bill but opposed to the Gooding bill. The principal purpose of this maneuver was to put him and other members of Congress in a position where they must either support the Gooding bill or oppose the Cape Cod Canal bill. The Interstate Commerce Commission has strongly opposed the Gooding bill. Its passage, like that of the Pullman surcharge bill, would be directly contrary to the repeatedly expressed views of the nation's highest railway regulating authority.

The inconsistency exhibited by many senators is best indicated by the fact that many who have opposed the repeal of the Transportation Act voted for the bill to abolish the Pullman surcharge. The Transportation Act directs the Interstate Commerce Commission not only to make reasonable and non-discriminatory rates for the various classes of railway service, but also to so fix them that in the aggregate they will enable the railways composing each large territorial group to earn a fair return. The Commission has not only held that the Pullman surcharge is reasonable as compared with other charges made by the railways, but that for the present its continuance is necessary to enable the railways to earn a fair return. Nevertheless, many senators who favor the retention of the provisions of the Transportation Act voted for the Pullman surcharge bill.

How do the minds of men work who favor the retention of the provisions of the Transportation Act and the maintenance of the Interstate Commerce Commission to carry it out, and who at the same time resort to unscrupulous political methods to promote the passage of measures the enactment of which the Commission has held would tend to defeat the principal purposes of the Transportation Act? The explanation is simple and easy. The commercial travelers of the country have been carrying on an energetic campaign for the abolition of the Pullman surcharge. They are an influential class of men. Therefore, numerous senators have voted for the abolition of the surcharge because they believe to do so is "good politics" for them. The Gooding bill is being pushed because of political pressure from the western intermountain territory. But if what individual members of Congress believe is "good politics" for them is to prevail over every sound principle of regulation how long will it be until political considerations will dictate the entire policy of railway regulation?

Never in history has a sound policy of federal regulation been more seriously menaced than it is by the maneuvering that is being done in Washington to secure the passage of the Pullman surcharge bill and the Gooding bill. The railways never can be reasonably and intelligently regulated except by some such body as the Interstate Commerce Commission which will be impartial, expert and reasonably free from political interference. The passage of these bills would constitute political interference with the work of the Commission of the most conscienceless and destructive kind. And it would be a blow dealt principally by so-called "conservatives" who have been understood to favor fair and constructive regulation. So-called "conservative" senators who, under the

political influence of traveling salesmen or any other class of people, will vote for such legislation, are more dangerous to the welfare of the country than the LaFollettes and Brookharts. The public knows that the LaFollettes and Brookharts are radicals and in the long run votes against them because it knows what they will do. So-called "conservatives" who will vote for such legislation as that under discussion profess to have principles which they violate when they think it is "good politics" to do so. Nobody can tell what men with such flexible principles will do.

The Tie Specifications Are Here to Stay

ONE of the most encouraging of current developments in the purchase of engineering and maintenance of way materials is the rapidly increasing recognition of the value of the standard specifications for ties. This development was manifested definitely during the recent convention of the National Association of Railroad Tie Producers where, for the first time in the six years of its existence, its annual meeting was characterized by an entire absence of open criticism of the specifications. On the other hand, several producers indicated by their statements on the floor of the convention that they regard the specifications as here to stay and supported them openly, while prominent railway men went on record as urging the roads and producers alike to conform more rigidly with their requirements. This is a development worthy of recognition for it indicates that purchasers and producers are coming to a more general agreement regarding the value of a common basis for the grading of this commodity. Prior to 1917 there was no uniformity in the specifications of different roads and little uniformity in the enforcement of specifications on many individual roads from month to month and from year to year. As a result the tie producing industry was in a chaotic condition. The producers were unable to continue operations during periods when the railways were out of the market because of their uncertainty regarding the requirements of different producers. There was no standard measure of quality with the result that each sale was a battle of wits between the producer, who endeavored to secure as high a grading for his product as possible, and the railway, which endeavored to apply the strictest grading consistent with its ability to secure the required number of ties.

While the disadvantages of this condition were generally recognized, it was not until the railways were brought under unified control that it was possible to harmonize their conflicting requirements and prepare and place in effect a common specification applicable to all of the roads. With the termination of federal control, the authority to enforce this specification uniformly disappeared. The American Railway Engineering Association, however, accepted this specification and recommended its general use with minor modifications and with this backing a considerable number of roads continued the specification in force. This action was not universal, however, for a considerable number of roads were but lukewarm in their acceptance of the specification and the survival of the uniform specification was open to question for a considerable time. However, as the value of the uniform specifications is becoming more evident the roads are rallying more generally to their support. No single development in the purchase of railway materials offers greater opportunities for economies than the standard specifications for ties and their increasing acceptance is cause for congratulation.

Books and Articles of Special Interest to Railroaders

(Compiled by Elizabeth Cullen, Reference Librarian, Bureau of Railway Economics, Washington, D. C.)

Books and Pamphlets

Assessed Valuation of Railways. [For Taxation Purposes] Report of the Interstate Commerce Commission to the U. S. Senate in response to Senate Res. 199. Dated Feb. 9, 1924. I. C. C. Docket no. 15792. 18 mimeo. p. Issued by U. S. Interstate Commerce Commission, Washington, D. C. Also available as Senate Doc. no. 199 of the 68th Cong., 2d. sess., from Govt. Print. Off., Washington, D. C.

Consolidation of Railway Properties. Hearings before Comm. on Interstate Commerce, U. S. Senate on S. 2224. Part II. Part I, of the same title, covered hearings in May, 1924. Part II covers hearings in Jan., 1925. 145 p. Pub. by Govt. Print. Office, Washington, D. C.

The Elements of Railway Economics, by Sir Wm. M. Acworth. New edition revised and enlarged by the author and W. T. Stephenson, and discussing post-war developments. 216 p. Pub. by Clarendon Press, Oxford, Eng., and New York, N. Y.

National Government and Business, by Rinehart J. Swenson. Discusses numerous regulatory boards, commissions, etc. affecting business in this country. 475 p. Pub. by Century Co., New York. \$4.00.

Some References to Material Commenting Upon the Work of the U. S. Railroad Labor Board. A brief list reflecting varying opinions. 6 p. Issued by Library, Bureau of Railway Economics, Washington, D. C. Gratis.

Periodical Articles

Constitutional Law in 1923-1924. The Constitutional Decisions of the Supreme Court of the U. S. in the October Term, 1923, by Robert E. Cushman. Decisions affecting railroads, p. 51-53, 65-68. American Political Science Review, February, 1925, p. 51-68.

New Books

Railroad Operation. By Ernest Cordeal, formerly assistant to the late J. W. Kendrick. 255 pages with index. Size 5 in. by 7 in. Illustrated. Bound in cloth. One of Railwaymen's Handbook Series. Published by Simmons-Boardman Publishing Co., New York. Price \$2.00.

This book covers all phases of railway operation including organization, shop and roundhouse activity, locomotive performance, train operation, storekeeping, maintenance of way, accounting or statistical control of operation, and employee and public relations. These include practically all the phases of the science of transportation by rail except, of course, finance, rates and tariffs, and regulation. Even with these three factors omitted, important as they are, there is left a most extensive field for the author to cover. Such being the case, the reader will not expect to find that the book is exactly exhaustive. Fortunately, also, it is not exhausting because the volume is a neatly gathered together assemblage of sidelights on various features of railroad operation ably arranged so as to have continuity of thought and sustaining interest.

The value of the book to the operating man will be that it will bring to his attention certain outlooks on his work that he may not have had opportunity to obtain in the ordinary day-to-day conduct of the jobs in hand. The book contains much good advice. It is not large enough to permit the author to offer descriptions of what various railroads do by way of solving certain classes of transportation problems. The good advice will have the value of

leading its reader into new lines of thought and assist him, so to speak, to check up on himself generally or with reference to phases of activity to which proper attention may not have been given.

There is only one objection to the subject matter of the book, and that relates to the chapter on organization. This chapter refers to three types of railway organization; unit, departmental and hybrid. The use of the designation "unit" in place of the more commonly accepted designation "divisional" proves somewhat confusing. The chapter on organization is the second chapter of the book, and, as a result of the confusion permitted in the reader's mind with reference to this subject, gives the book a poor start that is out of keeping with the excellence of the chapters that follow.

Rights of Trains, by Harry W. Forman. 608 pages, 5 in. x 7 3/4 in. Bound in cloth. Published by Simmons-Boardman Publishing Company, 30 Church Street, New York. Price \$3.

This book is notable in three different features. It is up to date, providing an exhaustive discussion of a subject which is always a live one in train-operating circles. Secondly, it is by the same author who wrote on the same subject years ago, thus, for many readers, affording interesting and instructive comparisons and side lights not otherwise obtainable. Mr. Forman has now had 50 years' experience, instead of the 30 which stood to his credit when he issued the former work, and the added years have been fruitful ones. This is not a mere conventional observation, for Forman's experience has been active, continuous and always based on a studious attitude. Readers never have any suspicion that he is a teacher too old to learn. Thirdly, the book, although a revision, has been wholly rewritten and is practically a new book. Finally, the last 75 pages—all following Rule 275—constitute a distinct addition to the original work. These pages really constitute a valuable supplement giving, in rather informal style, a great amount and variety of train-operating lore which the reader will, no doubt, find to be much more agreeable reading than it would have been if confined within the formal phrases to which every one limits himself when talking about a specific rule, with rigid obedience to each word constantly in mind.

The book will fill a long-felt want. This hackneyed phrase comes naturally to the tongue because of the frequent inquiries which have been received at this office since the former issue was sold out. And it fills both the want felt by the railroad employee, who desires to study every page and exhaust all avenues of information, and that of the college student, or the mere book worm, who probably will not expect to burn any midnight oil over the subject. The latter class of readers will find their attention held by the fulness and care with which the author covers every point on which they may be curious, while the more serious student will find his labors constantly lightened by the thoroughness with which every phase of every train-rule problem is explained to the last detail.

The title of this book is only a pointer. There ought to be a sub-title to the effect that it is a thorough and exhaustive treatise on every phase of the art of directing the movement of railroad trains with safety, celerity and peace of mind, and without the benefit of a regular space-interval system. (If ever the railroads of America shall put in use a perfect block system much of Mr. Forman's work will go into eclipse). The train dispatcher's art is *sui generis* and the cold fact is that many a dispatcher has held his job only at the cost of countless days and nights of anxiety, if not actual distress; hence those italicized words. The supreme satisfaction to be derived from such a study as this book provides for is that the earnest and

purposeful student is able to qualify himself to master his work, completely, at all times, and never let the job master him.

This book is not a primer, though the reader unacquainted with single-track operation might at first think so. The primer is the Standard Code as issued by the American Railway Association. We may assume that everybody reads that as a preliminary. Even prior to that, most young readers will have learned a good deal by personal intercourse with train men and telegraphers before ever looking inside a rule-book. This work may be called the handbook for an advanced course. And it is an advanced course in very truth. The unprepared student would be appalled at the variety and elusiveness of the puzzles presented. The material defies instructive classification, making the subject-matter sometimes appear jumbled, if not confused. But this is inevitable. A thoroughly systematic study of the facts and theories embodied in Mr. Forman's 600 pages would necessitate a ten- or twenty-weeks' course, under a tutor; and there is not as yet any class of readers who would appreciate that degree of elaboration. Indeed, one way of looking at this great mass of information and comment is as an abstract of what the author teaches in a long succession of two-hour lectures to classes of trainmen.

Specifically, the book treats the train rules proper, (Numbers 1 to 199) mainly by way of explanation and amplified definition, and the train dispatching rules (201-225) by explaining, defining and giving further instruction. The Standard Code assumes certain knowledge and acquisitions already possessed by the dispatcher; this work assumes nothing in that direction; its aim is to tell the dispatcher everything that can be told in a handbook. There are charts and drawings, to the number of about 100, explaining good and bad train orders and timetables, describing track layouts, the aspects of fixed signals, hand signals, etc. The general discussion, pages 521-599, before referred to, provides for the train dispatcher a very full and detailed manual, affording a vivid picture of his every-day duties.

Mr. Forman's occupation for the past 25 years has been, not train dispatching but teaching; lecturing to trainmen and to dispatchers; and the book is a complete guide for the use of any railroad officer who examines the men of these classes. And, as the author's experience in this line has been on several different roads, his views are no doubt as free from narrowness or local prejudice as it would be possible to find. On the Western Pacific, where he now is, his duties cover even a broader field, his position being that of assistant to the general manager. And to the train-rule examiner, the dispatcher, the conductor and to teachable men of all operating classes, he imparts an immense amount of wisdom in the shape of advice what not to do.

The standard code of the American Railway Association being the fundamental "Gospel" everywhere in the United States, the primary duty and purpose of the writer of a book like this is to advise and enlighten men on the simple point of obeying orders; of doing what they are told to do. With this object in view, any such thing as "human interest" or a sympathetic treatment may seem at first thought to be quite out of the question; but Mr. Forman has got around this drawback quite successfully. He does get in the human touch, and without detracting at all from the cogency of the more strictly formal portions. We still have quite a sprinkling of rules or parts of rules which, in the words of the official dictum of former years "cannot or should not be enforced and therefore ought not to exist," but he deals with such points discreetly. He does not tell the conductor to disobey or ignore the rules, but he helps all conductors to do a lot of intelligent thinking.

Monon Builds Two-Level Freight-house

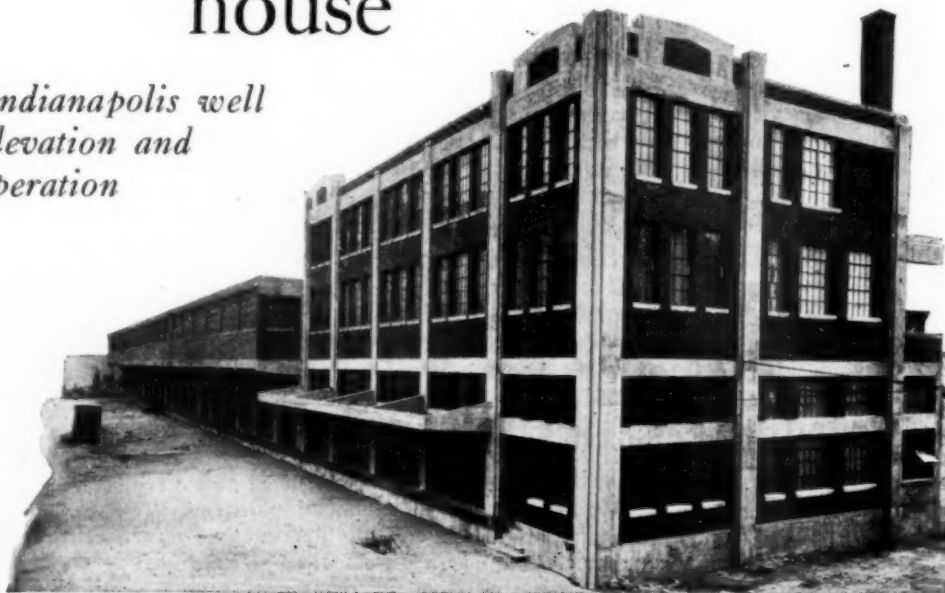
Structure provided at Indianapolis well adapted to track elevation and economical operation

WHEN the city of Indianapolis, Ind., undertook its extensive program of track elevation, it became necessary for the Chicago, Indianapolis & Louisville to rebuild its freight station at this point. This has led to the construction of entirely new facilities, consisting of a two-level freight house with a three-story office section. The structure is of reinforced concrete and brick, having all tracks outside and is considered an efficient and pleasing solution of the several problems faced in its design and construction, among which, aside from track elevation considerations, were the necessity of building on the old site without disturbing daily operations and of building for the future in a somewhat limited ground area.

The Building Is 464 Ft. Long

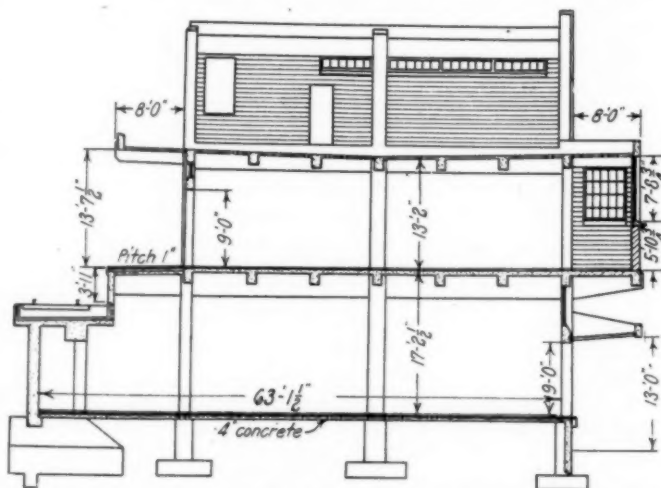
The building is 46 ft. wide in front, 33 ft. wide at the rear and 464 ft. 6 in. long and replaces two old buildings, one an inbound house 42 ft. wide and 400 ft. long, the other an outbound house 42 ft. wide and 305 ft. long, both of which were one story except the west end of each which was two stories high for the accommodation of the local freight offices. The position of these old buildings and the track layout exercised a considerable bearing upon the location of the new house. The site of the terminal is in downtown Indianapolis where the tracks are crowded by business blocks. The tracks enter from the east, leaving the main line a little east of Liberty street, about three blocks east of the city hall, and proceed across East and New Jersey streets to their terminal at Alabama street, immediately south of the city hall.

With the property east of East street less than 100 ft. wide at its greatest width and with only a 100-ft. strip available between New Jersey and Alabama streets, and this required for team tracks, the only location left for the new freight house was in the area between East and New Jersey streets, comprising a strip of land 464 ft. long and 175 ft. wide, occupied by the old buildings. During the seven years in which the improvement work has been under consideration, about 20 designs were prepared in determining the best solution of the problem, which was to construct a single freight house of two levels with its north side bordering on Pearl street, an east and west thoroughfare accessible to vehicles, and with the elevated tracks on the south side. Aside from the merit of this location for operating purposes this arrangement of tracks and house imposed the least interference with the use of the old facilities during the construction of the new, the step required being to convert the old outbound freight house into an inbound house after tearing down



A Front View of the House with Pearl Street on the Left

the old inbound house, which was in the way of the new building, constructing a temporary outbound platform in the narrow strip between Alabama and New Jersey streets, and, pending the opening of the new house, to provide the first of four elevated house tracks contemplated. While the program contemplates the supporting of all four tracks upon a fill carried between concrete re-



The Interior of the Freight House, Showing Overhang and Elevated Tracks

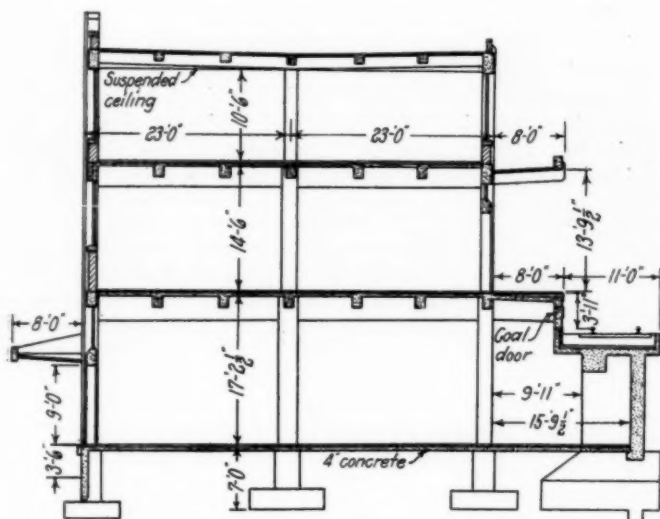
taining walls, the one track provided next to the house was built upon reinforced concrete supports in order to dispense with the fill until the old facilities could be completely abandoned.

In its completed form the lower floor of the freight house is built truck-level high above Pearl street, while the upper floor is carried car-level high above the elevated tracks. This condition calls for a 17 ft. 2½ in. floor to floor height between the two levels. The trucking portion of this floor comprises the entire area within the building walls except the space in the forward panel, which is provided for the use of the local cashier's office.

In addition, a strip 17 ft. 1½ in. wide extending the length of the building has been made available for storage by building out under a trucking platform on the upper floor and the elevated tracks structure. The forward end of this space contains the heating plant and coal bin, thus dispensing with a basement. With this strip available, a total width of the lower floor of 63 ft. 1½ in. is obtained, all readily accessible from Pearl street.

Second Floor Overhangs First Floor

The opportunity was also taken to enlarge the area of the upper floor beyond that within the main walls of the



Sectional View Through the Front End of the Building

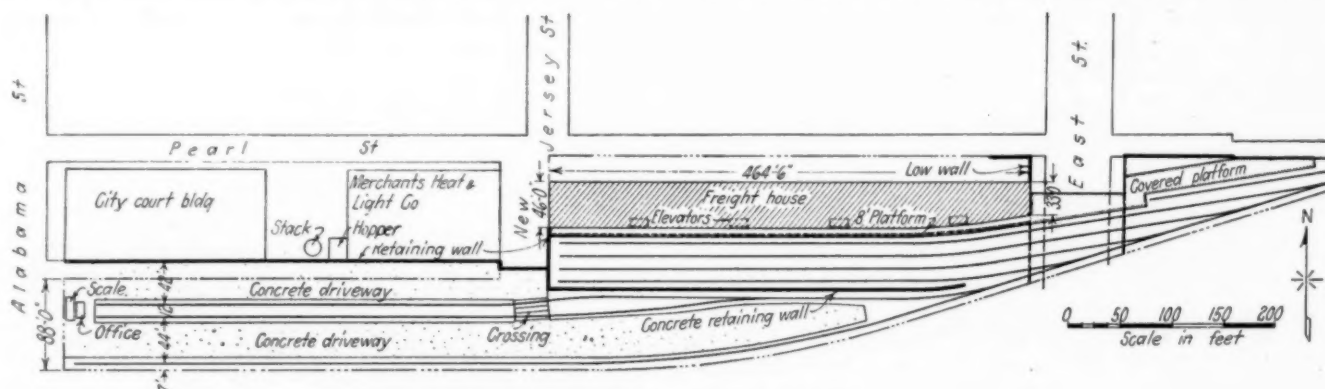
lower floor. Along Pearl street the upper floor overhangs the lower floor 8 ft. from the end of the three story section to East street, a distance of 366 ft., making that portion of the upper floor level 54 ft. in width. This overhang also serves as a canopy over the street area occupied by trucks at the freight house doors. As before mentioned, there is a trucking platform on the track side of the building, this being 8 ft. wide and extending the

foreman's office and a perishable goods room and the 98 ft. of the third floor built immediately above this section is used by the clerical forces.

The exterior of the building is of modern warehouse design with exposed concrete columns and curtain walls of red face brick of rough texture, thus forming a pleasing contrast to the exposed concrete members. The roof consists of a concrete slab covered with Barrett specification roofing. The building is equipped with Truscon perfection ventilator type sash in the offices and with Truscon standard side wall sash for the remaining portions. On the second floor this sash occupies practically all of the upper eight feet of wall on the Pearl street side and is provided in panels two feet high above the doors on the track side, while on the second floor the sash occupies the wall space above the doors on the Pearl street side. Finished floors of the Kalman type are provided throughout the entire building with Wilson rolling steel doors at all openings on both floors, those at street level being 12 ft. wide while those on the track level floor are 10 ft. wide.

The building is served by four Otis micro-drive elevators, each 9 ft. 4 in. wide by 16 ft. long with Peelle doors. These elevators each have a capacity of 10,000 lb. with room for four trucks at one time, and travel at the rate of 75 ft. per min. They are of the automatic push-button type, operating on alternating current, and are unique in being built against the wall of the building where a rolling door would ordinarily come. With a window provided on this side, the elevator shafts are thus well lighted, even when the doors are closed. Installed on the first floor are four Howe scales of 10,000 lb. capacity, located near the doors for use in receiving freight. There are also two checker's booths of the enclosed type on the first floor, one in the forward end of the building and one near the center, where toilet facilities are also provided.

The building is of reinforced concrete construction throughout and is designed for a floor load of 300 lb. per sq. ft. supported by two girder spans of 23 ft. each with 8 ft. cantilever girders on each side. The cantilever arms on one side provide the support for the overhang of the building and for the roof over this overhang, while those on the other side provide the support for the platform and the canopy over this platform. On account of the



The Layout of the House and Tracks

entire length of the freight house beneath a canopy installed for purposes of shelter. By extending to the north the viaduct required to carry the tracks over East street it was also possible to provide a covered platform about 250 ft. long, that portion east of the viaduct being carried upon the fill for the tracks. This platform, which is 26 ft. wide across East street, also permits the utilization of an additional spur track about 160 ft. long to supplement the tracks opposite the freight house. The forward 17 ft. of the second floor accommodates the

length of this building the construction provides for three transverse expansion joints, one between the three-story section and the two-story section and the other two at equal intervals in the freight handling section. A brick wall is provided on each freight floor for fire protection.

Complicated Design of Retaining Walls

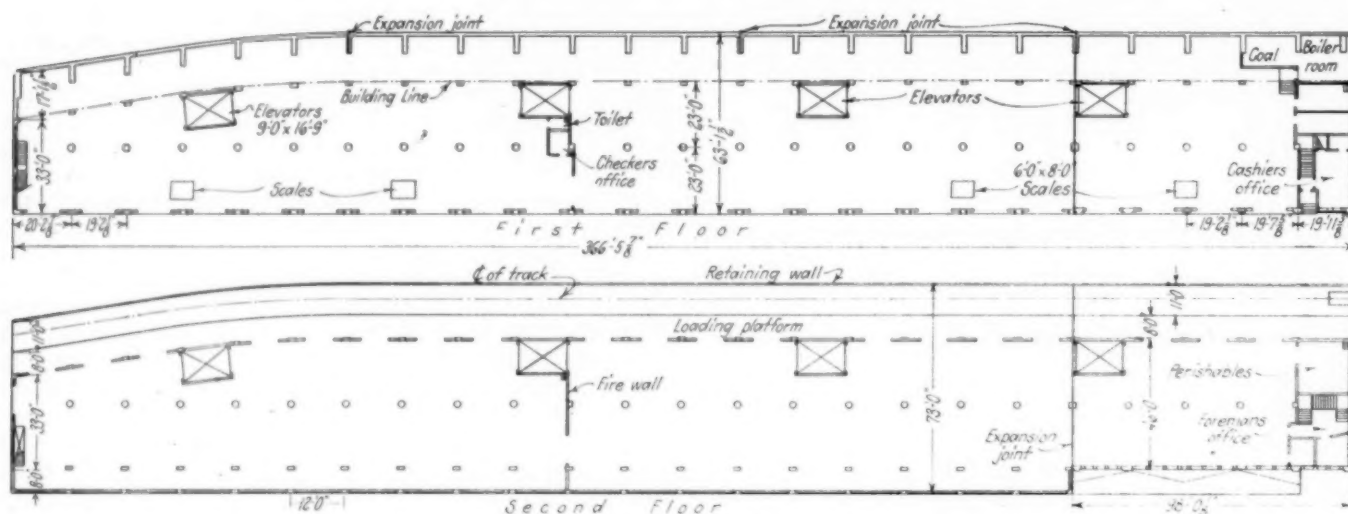
A unique feature in the design is the combined retaining wall and elevated track structure. This structure will not only retain the earth fill and future tracks adjacent

to it but will also carry the first track adjacent to the loading platform. At the same time the space underneath the track has been utilized as part of the first floor storage space, thereby increasing the total usable space in the first story 20 per cent. This combination structure was designed and constructed as an entirely separate unit to carry E-60 loading with a 50 per cent impact.

All of the tracks serving the new freighthouse as well as the team tracks are carried across East street on a reinforced concrete and steel bridge consisting of two spans over the street and a 13-ft. by 6-ft. 6-in. span on each side over the sidewalks. This bridge, in addition to carrying the tracks, is of sufficient width to provide for the 26-ft. covered platform already mentioned. The team tracks are not elevated but occupy a section of ground lying to the south of the elevated freighthouse tracks and extending west to Alabama street. There are three team tracks in all, the lead starting at the high level at the new East street bridge and descending on a three per cent grade to a point about 250 ft. west of the west line

the west half of the building to the handling of inbound freight and the east end or rear half to the outbound business, with the further plan of moving all inbound freight to the first floor and storing it there immediately upon unloading it from the cars on the track level, thereby reducing the handling of freight to a minimum. The movement of freight between floors will be accomplished by the despatching method, the truckers remaining on their respective floors. By this method and the use of modern facilities for freight handling, including electric trucks, tier lifts, etc., it is expected that more than three times the present amount of freight can be handled without increased expense over the operating cost of the old facilities.

The freighthouse and combination retaining wall and elevated structure were designed and constructed by Thompson & Binger, Inc., Indianapolis, Ind., under the general supervision of A. S. Kent, chief engineer of the Chicago, Indianapolis & Louisville. The East street bridge and platform and the gravity retaining walls be-



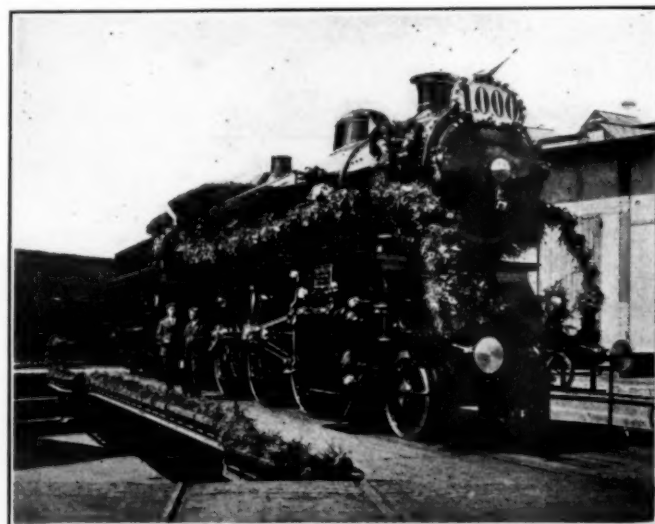
The Plan of the First and Second Floors

of East street. From that point to Alabama street the tracks descend on a $1\frac{1}{4}$ per cent grade, reaching the street level near the east line of Alabama street. These tracks are separated by two concrete driveways which are entered by teams or trucks from Alabama street, New Jersey street being closed at the line of property north of these tracks.

Less Men to Operate New House

Work on the new freighthouse and combination retaining wall and track structure was begun on April 15, 1924, and completed in November, together with the reinforced concrete bridge over East street with the exception of the portion now occupied by the tracks serving the old facilities, which is still at street level. As soon as the new building was opened the wrecking of the old building and the completion of the elevation of the three south tracks serving the freighthouse was begun. It is expected that the entire project will be completed early this year. In its completed form the freighthouse provides twice the floor space of the old house and will be operated with less men, notwithstanding the necessity of operating between the upper and lower floors. Just how the house will be eventually utilized remains to be determined. It is possible that some of the space will be utilized in the future for warehousing purposes, a disposition that received consideration when designing the structure. At the outset, however, the plan is to devote

tween East street and Alabama street are being constructed by the Meade-Balsch Construction Company, Indianapolis, Ind.



The 1,000th Locomotive Built by Ceskomoravska-Kolben, Ltd., Prague, Czechoslovakia

B. & O. Extends Scope of Employee Co-operative Plan*

"Very splendid results" in shops point way for improvement in C. T. and M. of W. departments

By E. W. Scheer

General Manager, Eastern Lines, Baltimore & Ohio

THE longer one stays in the railroad service and the more numerous his points of contact, the more he realizes how dependent he is upon those working under his supervision for the proper performance of the duties in his charge. And the further along he goes the more he is impressed with the fact that it is to his advantage to be receptive to the suggestions of his co-workers. Indeed, if he weighs the situation carefully, he quickly sees that the measure of support that he gets is largely dependent on his willingness to solicit frankly the help of all those who can possibly have a bearing on his work. Particularly is this true in the Baltimore & Ohio family, in which, through the development of the spirit of friendliness between management and men, there has grown an unusual willingness on the part of the entire personnel of the company to do everything possible, on duty and off, day and night, year in and year out, looking to the success of the whole organization.

Co-operation Has Had Important

Part in B. & O. Success

No one, I believe, can look at the success which the Baltimore & Ohio has had in the last two years and not agree that co-operation has been a very important factor in that success. The question in some quarters has been as to just how we could best get the full benefit of this co-operation on the part of our employees.

With this thought in mind, our management some time ago adopted the practice of inviting any train service man who cared to, to attend the Monday morning staff meeting of the division superintendent. For a time there was quite a little interest manifested on the part of the men, but gradually this seemed to wane, and now I think that there are very few at the superintendents' staff meetings, at least on the Eastern lines, except the staff itself.

I am sure that no one in particular is responsible for this apparent lack of interest. I can speak for all our superintendents and other division officers when I say that I know they would be glad to see the men handling our trains come to these meetings. We all appreciate the great value of teamwork. Unfortunately, we do not always seem to know how to bring it about. This is probably due to lack of complete understanding on the part of the men that they will be welcomed at these staff meetings, that their presence and their interest in the meetings, in fact, are solicited, and that the help which they can give will be greatly appreciated.

Now, however, the very splendid results obtained by our motive power department through their co-operative meetings, point the way to how the same results can be obtained in the C. T. and M. of W. departments, namely through meetings especially arranged for joint conferences between officers and employees. With this thought

in mind, on January 8, I wrote General Superintendents Scott, Peck and Van Horn, in part, as follows:

Effective at once, we will arrange to hold monthly co-operative meetings with representatives of train and engine service and officers and employees of the maintenance-of-way department, for the purpose of frankly and freely discussing operations on the divisions, and receiving and considering any suggestions that our officers and employees may have, looking to the improvement of our divisional performance.

It is desired that a record be kept of the attendance, subjects discussed, and recommendations made with reference to the latter. An accumulative record, and also a record of the suggestions approved and adopted or rejected by the division officers should be kept, the same as is now being done in connection with the meetings of the mechanical department co-operative committees.

I am particularly anxious to get this started this month on the Eastern lines, as there is no question in my mind but that if this problem is properly approached and handled by the division officers, so as to encourage our employees to attend the meetings and offer suggestions, we will receive many helpful and constructive criticisms, all of which will be helpful in bringing about a C. T. ratio of 34.5 this year. If you will keep me advised of the dates of these meetings on each division, I will arrange to attend as many of them as possible.

These meetings should be attended by the general superintendents, superintendents, district and division master mechanics and such other officers as are available. In addition, you may arrange, if you so desire, to have present agents from the principal stations.

Sufficient advance notice of the meetings should be given the employees, so as to enable as many as possible to arrange to attend.

All the divisions on the Eastern lines have now got their co-operative organizations in the C. T. department well under way and the Charleston division held a smoker for all employees who could attend, in the superintendent's office at Weston W. Va., on the evening of January 7, when a fairly complete plan for the meetings was adopted. Because of the general excellence of this plan I am quoting it in large part, as follows:

BY-LAWS, CHARLESTON DIVISION TRANSPORTATION DEPARTMENT CO-OPERATIVE COMMITTEES

PURPOSE

To promote team work for co-operation in the transportation department among the members thereof, and also between this department and all other departments and employees of the Charleston division, and the management of the Baltimore & Ohio Railroad.

PERSONNEL OF COMMITTEE

Committee shall consist of a member and two alternates from each classification of service in the transportation department, in order that there may be no meetings without a representative of each classification present, and the superintendent and staff officers of the division.

OFFICERS

There shall be elected by a majority vote of the whole committee, or a quorum thereof, a chairman, vice-chairman and secretary (an assistant secretary to be elected from the office force at the Superintendent's headquarters) from two of the following classifications:

- (a) Agents and station employees.
- (b) Brakemen.
- (c) Conductors.
- (d) Engineers.
- (e) Firemen.
- (f) Yard masters and yard clerks.
- (g) Dispatchers and operators.
- (h) Division accountant's office.
- (i) Police department.

ARTICLE I

Meetings shall be held once each month at point to be designated by the chairman, from 8.00 p. m. to 10.00 p. m., on the first Monday in every other month, beginning with February and the first Tuesday on alternating months.

*From Baltimore & Ohio Magazine, February, 1924.

Notice of such meeting to be bulletined in advance. Each regular member of the committee and the alternates to be permitted to bring or invite one railroad employee, irrespective of classification, as his guest to the meeting, such employee to take full part in such meetings as he attends as a regular member.

ARTICLE 2

Any active member who, for reason, finds he cannot continue to serve on the committee, will nominate a man from his own classification to succeed him, and a majority of the vote of the committee, or a quorum at any meeting, shall elect the new member as such.

ARTICLE 3

A quorum shall consist of a majority of the members.

ARTICLE 4

The chairman shall be elected for a period of two months, or to sit at two meetings. At the third meeting the vice-chairman shall take the chair and a new vice-chairman shall be elected by a majority vote of the committee.

ORDER OF BUSINESS

1. Roll call.
2. Reading of minutes of previous meeting and adoption thereof.
3. Handling of unfinished business.
4. Report of sub-committees.
5. Consideration and discussion of constructive suggestions of members as their names are called from the roll. All suggestions to be referred to a sub-committee of three serving with the chairman, or vice-chairman, or both, and the secretary, the three other committeemen to consist of the member making the suggestion and two others nominated by him and elected by the majority vote of the members present.
6. Considering of records and interesting items of our industry, including the reading of papers by different members on assigned subjects.
7. Other special features, pre-arranged for instruction and entertainment.
8. Open-discussion of subjects pertinent to the transportation industry and good fellowship of employees.

It was further decided to hold these co-operative meetings once a month, alternating at Weston and Gassaway, and to use the same general forms for the making and recording of suggestions as are at present being used at the co-operative meetings in the mechanical department. Further that after the co-operative meetings in the C. T. department get under way, a similar committee composed of the employees and officers of the maintenance-of-way department be organized, to meet once a month in rotation at the headquarters of the several supervisors.

What Plan Has Accomplished in Shops

Now that these plans have been perfected for the holding of co-operative meetings in the C. T. and M. of W. departments on the Eastern lines, I only wish that the employees of these departments were fully aware of the remarkable results which have been brought about by the co-operative meetings in the mechanical department. In the address which President Willard delivered at Garrett, Ind., on October 30 of last year, at the golden jubilee of that city, he summarized the record of these co-operative meetings as given in the following table:

Number of meetings held between management and men representing employees	657
Average attendance at these meetings	12
Average length of meetings in hours	1 1/2
Total number of suggestions submitted for discussion	5,272
Number of such suggestions adopted	3,810
Per cent of those adopted to total proposed	72.2
Number of suggestions still under consideration but not disposed of ..	972
Number postponed because expense necessary to install them not justified at present time	85
Number dropped because after full discussion considered impractical ..	405

Out of all these suggestions that were adopted has come a notable increase in efficiency in the handling of our car and locomotive repairs. But I am not thinking alone of increased production and lowered costs. These have been demonstrated by cold figures. What I am thinking more about is that fine spirit which is noticeable wherever you go among the men of the mechanical department. I have talked to any number of them and the evidence is convincing that never before have they been so happy in their work, never so anxious to set a high mark of accomplishment, never so possessed of the idea that it is worth doing a good job for the sake of the job itself.

Again, the result of the co-operative plan in the mechanical department points the way to us because of the greater relative amount of work that it has given to the men in the shops. The record for 1924 shows that notable progress was made in the stabilizing of employment through large additions of work given our em-

ployees, and which had heretofore been done in outside shops.

Savings Will Bring Benefits to Employees

There is always much work that can be done in the C. T. and M. of W. departments, that would result in better operations, but for which the necessary money is not available. I refer to new sidings, the improvement of track layouts in our yards, the erection and repair of buildings, the accomplishment of which would mean not only the doing of the actual work by the employees of the M. of W. department, but the employment of more men in the C. T. department in the handling of work trains, etc.

If, through the greater efficiency and co-operation of the employees in the C. T. and M. of W. departments we can reduce our C. T. ratio on the Eastern lines this year to the desired point of 34.5, I am sure that the management will be glad to authorize substantial additions of such work as that suggested but which now cannot be done on account of the lack of available money for materials and labor.

Wants Transportation and M. of W.

Employees to Compete with Shopmen

Now that we of the C. T. and M. of W. departments on the Eastern lines have got started on these meetings, what I would like to see is a "competition in co-operation" between our friends of the mechanical department and ourselves. They have a good lead but I am sure that we can make it interesting for them. Our executives have asked that we reduce our system transportation ratio for year 1925 to 34.5 per cent. It is going to require the best effort of all of us to accomplish this but I am confident that the hearty support of these co-operative meetings by officers and employees alike will go a long way toward bringing about the desired result.

Net Return for Last Year 4.35 Per Cent

WASHINGTON, D. C.

CLASS I railroads, representing a total mileage of 236,190 miles, had a net operating income in 1924 of \$987,133,650, or a return of 4.35 per cent on their property investment, according to reports filed by the carriers with the Interstate Commerce Commission and tabulated by the Bureau of Railway Economics. In 1923 their rate of return was 4.49 per cent.

The operating revenues amounted to \$5,986,492,100, a decrease of \$373,931,100 or 5.9 per cent as compared with the preceding year. Operating expenses amounted to \$4,558,307,800, a decrease of \$386,827,600 or 7.8 per cent. The freight revenues for the year 1924 amounted to \$4,347,916,000 as compared with \$4,625,786,000 in 1923. This was a reduction of 6 per cent. The passenger revenues amounted to \$1,076,615,000, as compared with \$1,147,578,000 for 1923, a reduction also of 6 per cent. These totals include the amounts received by the railways in the form of a surcharge on sleeping and parlor car tickets, which aggregated \$37,489,000 in 1923 and approximately the same amount in 1924.

Revenues received for the carriage of mail increased about 5 per cent; express revenue showed a smaller relative decline than freight or passenger revenue, and "all other" revenue declined about 6 per cent.

The net operating income by regions for the year, with the percentage of return based on property investment, was as follows:

Region	Net Railway Operating Income	Rate Earned Per cent
New England Region.....	\$35,727,730	3.74
Great Lakes Region.....	183,333,460	4.84
Central Eastern Region.....	194,911,371	4.26
Pocahontas Region.....	52,525,674	6.03
Total Eastern District.....	466,498,235	4.58
Total Southern District.....	142,554,438	5.20
Northwestern Region.....	104,873,704	3.12
Central Western Region.....	181,262,509	4.21
Southwestern Region.....	91,944,778	4.34
Total Western District.....	378,080,991	3.87
Total	\$987,133,664	4.35

Twenty Class I roads had operating deficits in 1924, of which 10 were in the Eastern district and 10 were in the Western district. In 1923, sixteen had operating deficits of which eight were in the Eastern district, one in the Southern and seven in the Western.

Maintenance expenditures amounted to \$2,072,442,480, a reduction of \$223,035,260 or nearly 10 per cent under 1923. Maintenance of way expenses showed a reduction of \$19,590,091, or 2.4 per cent, while expenditures for maintenance of equipment were reduced by \$203,445,171 or 13.8 per cent.

Class I railroads in 1924 paid out in taxes, \$344,073,780, an increase of \$6,739,360 over the amount paid in 1923. This means that the average paid daily by the railroads for taxes in 1924 was \$940,092, as compared with \$924,204 in 1923.

Net operating income showed a slight increase, from \$983,736,200 in 1923 to \$987,133,650 in 1924. This increase of approximately \$3,397,000 in net operating income was brought about, despite a decrease of nearly 6 per cent in operating revenues, by the fact that, while freight traffic in 1924, measured in net ton miles, was approximately 6 per cent less than the preceding year, the railroads were able, through increased efficiency in operation, to reduce their operating expenses by nearly 8 per cent as compared with those in 1923.

The fact the net operating income was greater in 1924 than the previous year, while the rate of return was less, resulted from additional expenditures for improvements and betterments.

As compared with 1920 operating expenses in 1924 showed a reduction of \$1,272,000,000, of which \$670,000,000 was passed along to the public during the year just passed in the form of reduced freight and passenger rates. That is to say, had freight and passenger rates in 1924 been at the level of those fixed by the general rate increase of 1920, the total charges made for transportation by the railroads in 1924 on the traffic actually handled in that year would have been \$670,000,000 greater than they were.

Carriers in the Eastern district had a net operating income for the year 1924 of \$466,498,200, as compared with \$479,415,300 in 1923, or a decrease of \$12,917,100. Freight traffic in the Eastern district in 1924, according to incomplete returns, was about 10 per cent under that of the preceding year. Operating revenues of the Eastern carriers totaled \$2,945,972,300, a decrease of 8.5 per cent. Operating expenses totaled \$2,276,646,350, a decrease of 10.3 per cent.

Class I carriers in the Southern district in 1924 had a net operating income of \$142,554,400, as compared with \$129,764,450 in 1923. Freight traffic on the Southern roads in 1924 was about four per cent below that of the year before. Operating revenues of the Southern carriers totaled \$788,343,600, a decrease of 2.5 per cent, while operating expenses totaled \$595,090,990, a decrease of 5.2 per cent.

Carriers in the Western district had a net operating income in 1924 of \$378,080,990, as compared with \$374,556,760 for the preceding year. Freight traffic in the Western district showed a decrease of nearly two per cent under 1923. Operating revenues of the Western

carriers totaled \$2,252,176,160, a decrease of 3.4 per cent, while operating expenses totaled \$1,686,570,400, a decrease of 5.2 per cent.

For the month of December alone the net operating income of the Class I roads amounted to \$86,998,470, as compared with \$70,030,890 in December, 1923. Gross operating revenues for the month totaled \$505,522,950, an increase of \$10,864,705 or 2.2 per cent over those of December 1923. Operating expenses for December amounted to \$381,415,250, a decrease of \$6,758,560, or 1.7 per cent.

Assessed Valuation in Various States

WASHINGTON, D. C.

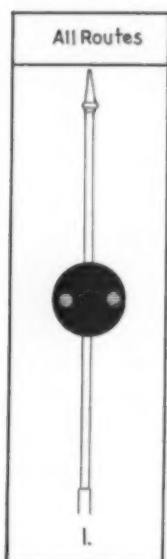
THE Interstate Commerce Commission has sent to the Senate a report in response to Senate Resolution No. 199 adopted March 28, 1924, at the instance of Senator Dill, which directed the commission to ascertain from the proper authorities of each state the assessed valuation of the carriers on a 100 per cent basis of valuation as used for taxation figures for the year 1923.

A questionnaire was sent on May 1, 1924, to the governor of each state. The commission's report says that varying methods are employed by the states in the assessment of railway property for taxation. Thus in California, Connecticut and Maine there is no valuation, the tax being determined from the basis of a percentage of gross earnings. Others capitalize value on the basis of net earnings; by the market value of stocks and bonds, by a combination of these, etc. Several states failed to report complete assessed valuations of the railroads and the commission in its report expresses the belief that "It is highly probable that in many, if not in the majority of cases the proposed 100 per cent value is far from being the full value." States that did not show the complete assessed valuation included California, Connecticut, Delaware, Iowa, Kentucky, Maine, New York, Pennsylvania and Texas.

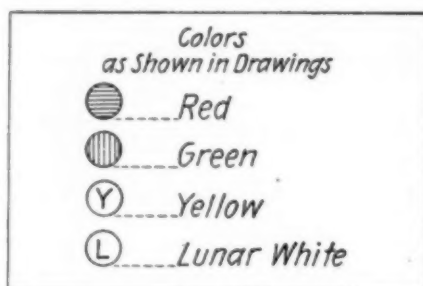
Four appendices are attached to the report. One shows the total valuation for taxation purposes on a 100 per cent basis of those roads for which complete data were reported. Because of the important states for which information was not given, many of the larger roads are omitted. The Pennsylvania for instance is not shown because it has lines in New York, Delaware and Pennsylvania, neither of which reported a 100 per cent valuation. Similarly the New York Central, Baltimore & Ohio, Union Pacific, Southern Pacific, Atchison, Topeka & Santa Fe, etc., are not shown. Another appendix gives for 21 states and the District of Columbia, the assessed valuation of the railways in the state, the amount of taxes and the per cent of taxes to valuation. The mileage shown is only 86,216 and the taxes amounted to \$94,592,677, or 2.18 per cent of the assessed valuation.

Senator Dill, at the time he submitted the resolution, had also introduced a bill to require the commission "to give to such assessed valuation the controlling factor in determining the valuations to be used as the basic valuation for rate-making purposes as provided." He said he wanted the information called for by the resolution so that it might be before the committee on interstate commerce when it took up the consideration of the valuation question. The committee held hearings and gave some consideration last year to bills to amend the rate-making section of the law, but if the committee gave any consideration to the Dill bill the fact was not announced.

Color-Position-Light Signals Baltimore & Ohio



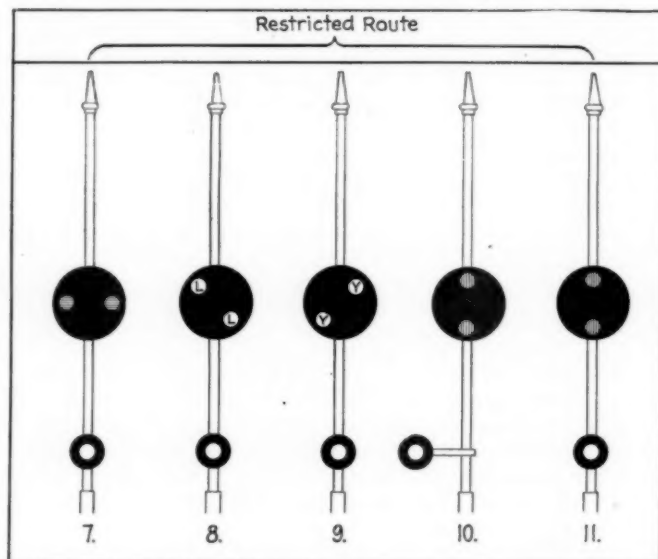
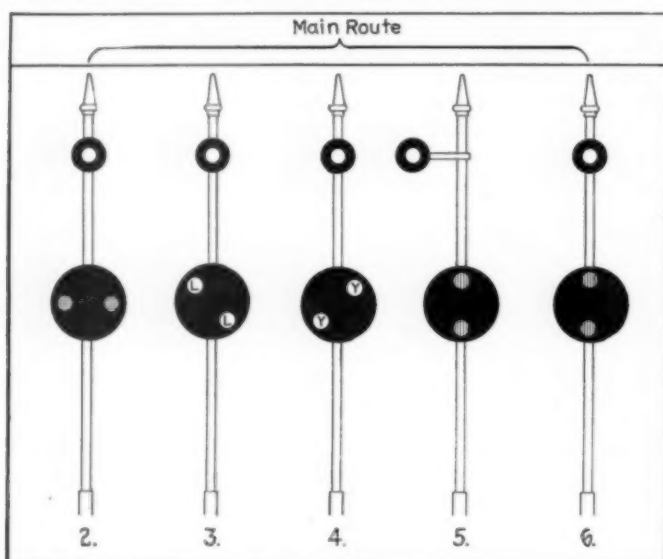
ON eight miles of the Baltimore & Ohio, double track, between Hamler, Ohio, and Deshler, there are now in use automatic color light signals, for day and night service, in which the indication is given by position as well as by color, the system of aspects being a development from the scheme that was described in an article



the Boston & Albany and the Old Colony used, with satisfaction, certain combinations of color and position (at night) in interlocking signals forty years ago; and that recent experience has demonstrated the feasibility of color-light signaling in the day-time for all train speeds, claims for the present scheme the maximum of simplicity, contrasting its 14 aspects with the 135 aspects which some railroad rule-books now call upon enginemen to commit to memory.

The colors in this system correspond to the colors now in general use for stop, caution and proceed (red, yellow and green) and there is added lunar white for permissive block signaling, making a complete scheme; and the position-indications also correspond to present practice with semaphore arms. That is to say, lights are arranged in a horizontal line to correspond with a horizontal arm; in a diagonal line to correspond with the arm set at 45 degrees with vertical; and in a vertical line to correspond with the proceed indication of a semaphore which, in the case of a three-position signal, is vertical.

In the use of two diagonal arrangements, one 45

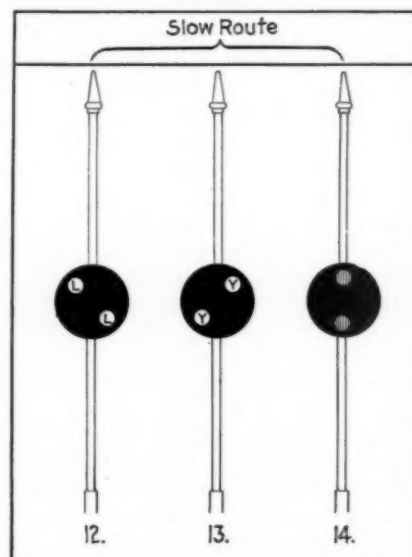


Standard Color-Position-Light Signals—Baltimore & Ohio Railroad

Numbers refer to the accompanying list of definitions. Aspects 12, 13 and 14 are shown at the right.

in the Railway Signal Engineer for April, 1922, page 150. As stated by F. P. Patenall, signal engineer of the road, in that article, a chief claim put forward in favor of this scheme of lights and positions is the simplicity of the arrangement; the number of aspects which must be committed to memory is but fourteen.

The drawings shown herewith illustrate the arrangement in its perfected form. High speed and low speed, automatic blocking, non-automatic blocking, and interlocking are all provided for in a single scheme, no feature of which is inconsistent with any other, in any situation. Signal Engineer Patenall, taking for granted that the use of lights in the day-time has fully justified itself by the increase in safety resulting from the abandonment of the complicated mechanisms needed for operating semaphores; and prefacing his argument by observing that



degrees downward and the other 45 degrees upward from the horizontal, the scheme corresponds to the position-light signals in use on the Pennsylvania.

The arrangement may be concisely described (using the numbers which appear in the drawings) as follows:

- | | |
|--|---|
| 1. Two red lights in horizontal line..... | Stop. |
| 3, 8, 12; Two lunar white lights in diagonal line in the lower quadrant..... | Proceed at slow speed; permissive. |
| 4, 9, 13; Two yellow lights in diagonal line in the upper quadrant..... | Proceed, prepared to stop at next signal. |
| 5, 6, 10, 11, 14; Two green lights in vertical line | Proceed |
| 2. White marker light above two red lights in horizontal line | Stop, then proceed; main route |
| 7. White marker light below two red lights in horizontal line..... | Stop, then proceed; restricted route |

With the exception of the additional color, lunar white, used for permissive movements, the colors used are the same as those now in general use, so that the aspects can readily be read and understood by men familiar with present practice.

A distinctive feature of the scheme is the arrangement of the white marker lights. The white light above the colored lights indicates a main or highest speed route; below the colored lights it indicates the restricted speed route. If the white marker light should fail, a lower speed is at once indicated. For example, aspect No. 6 indicates full speed; No. 5 indicates a reduction of speed for high speed trains; and numbers 10 and 11 give similar indications for a route already restricted by rule; while the failure of either of these white lights leaves aspect No. 14, which calls for bringing the speed under control as quickly as possible.

For convenience in reading the aspects the following classification may be used:

COLOR—POSITION—LIGHT SIGNALS—EXPLANATION OF ASPECTS SHOWN IN THE DRAWINGS

Indication	Name of Aspect
1. Stop.	1. Stop signal.
2. Stop, then proceed.	2. Stop and proceed signal.
3. Proceed prepared to stop short of train or obstruction.	3. Permissive signal.
4. Proceed prepared to stop at next signal.	4. Approach signal.
5. Proceed, approach next signal at restricted speed.	5. Approach restricting signal.
6. Proceed.	6. Clear signal.
7. Stop, then proceed.	7. Stop and proceed signal.
8. Proceed prepared to stop short of train or obstruction.	8. Permissive signal.
9. Proceed prepared to stop at next signal.	9. Approach signal.
10. Proceed, approach next signal at restricted speed.	10. Approach restricting signal.
11. Proceed.	11. Clear signal.
12. Proceed prepared to stop short of train or obstruction.	12. Permissive signal.
13. Proceed prepared to stop at next signal.	13. Approach signal.
14. Proceed.	14. Clear signal.

As is the case with all light signals these are operated by means of relays and circuit controllers which are governed by the track conditions, lights being extinguished or lighted as the route or the block conditions or both may require. Trainmen are not required to learn any new principles at variance with present practice.

The basic arguments in favor of this system are:

(1) The day and night indications are the same.
 (2) With aspects indicating proceed at slow speed, proceed at restricted speed, or proceed, no red lights are displayed; this obviates the necessity of disregarding a stop indication, as displayed in conjunction with a proceed indication in our present practice.

(3) Instead of trainmen being required to memorize 135 diagrams and 34 rules, they are only required to learn 14 aspects and six rules.

(4) Reduction in the cost of construction, maintenance and operation.

Aspects No. 5 and No. 10 are displayed at the second signal in the rear of the stop signal, so that where block sections are very short braking distance is provided for

the heaviest and fastest trains. Where signals are spaced further apart it will not be necessary to use these two indications for the purpose outlined.

Freight Car Loading

WASHINGTON, D. C.

FREIGHT car loading for the week ended February 7 amounted to 928,244 cars, an increase of 22,227 cars as compared with the loading for the corresponding week of last year and of 78,892 cars as compared with 1923. This was also an increase as compared with the week before. The loading in the Eastern and Southern districts was less than it was in the corresponding week of last year but all other districts showed increases, as did all classes of commodities except coal and forest products. Miscellaneous freight showed an increase of 15,100 cars. The summary as compiled by the Car Service Division of the American Railway Association follows:

REVENUE FREIGHT CAR LOADING
Week Ended Saturday, February 7, 1925.

Districts	1925	1924	1923
Eastern	215,605	221,815	207,866
Allegheny	192,244	190,943	184,928
Pocahontas	49,639	42,780	32,946
Southern	145,070	146,195	127,919
Northwestern	119,412	108,485	111,663
Central Western	138,022	137,410	133,913
Southwestern	68,252	58,389	50,117
Total Western districts	325,686	304,284	295,693
Commodities			
Grain and grain products.....	48,069	46,260	40,866
Livestock	32,825	32,103	31,697
Coal	192,655	199,745	190,990
Coke	13,174	12,674	15,193
Forest products	77,522	78,503	64,063
Ore	11,491	9,753	9,432
Mdse., l. c. l.	244,778	234,349	216,212
Miscellaneous	307,730	292,632	280,899
Total	928,244	906,017	849,352
January 31	896,055	929,623	865,414
January 24	924,254	891,481	869,464
January 17	932,150	894,851	864,297
January 10	932,807	872,023	872,908
Cumulative total, six weeks.....	5,379,237	5,200,287	5,088,731

The freight car surplus for the last week in January showed a decrease of 14,915 to 213,921, including 69,736 coal cars and 103,209 box cars.

The Canadian roads for the same period had a surplus of 27,050 cars, including 23,550 box cars and 300 coal cars.

Car Loading in Canada

Revenue car loading in Canada during the week ended February 7 totalled 53,009 cars, an increase over the previous week of 1,370 cars. Coal loading was heavier by 839 cars, other forest products by 282 cars and merchandise by 293 cars. Compared with the same week last year the increase was 1,462 cars, despite a decrease of 2,570 cars in grain and grain products. Coal loading was heavier by 3,684 cars, largely due to labor troubles in the Nova Scotia mines last year. Pulpwood was heavier by 466 cars, other forest products by 459 cars and merchandise by 699 cars.

COMMODITIES	Total for Canada			Cumulative totals to date	
	Feb. 7 1925	Jan. 31 1925	Feb. 9 1924	1925	1924
Grain & grain products.....	6,599	6,848	9,169	36,908	49,831
Live stock	2,161	2,211	2,115	14,360	12,103
Coal	6,369	5,530	2,685	37,257	28,296
Coke	282	283	263	1,797	1,512
Lumber	2,788	2,888	3,165	15,550	15,450
Pulpwood	4,587	4,656	4,121	23,300	18,656
Pulp and paper.....	2,262	1,989	2,095	11,960	12,274
Other forest products.....	3,837	3,555	3,378	17,583	16,097
Ore	1,123	1,065	959	6,751	5,097
Merchandise L. C. L.	13,546	13,253	12,847	77,730	70,598
Miscellaneous	9,455	9,361	10,750	55,014	56,899
Total cars loaded.....	53,009	51,639	51,547	298,210	286,813
Total cars rec'd from connections	35,236	32,437	34,745	189,581	185,855

Joint Service and Pooling

WASHINGTON, D. C.

THE Interstate Commerce Commission after an investigation has issued a report by Chairman Aitchison approving a two-year contract between the Northern Pacific, Great Northern and Oregon-Washington Railroad & Navigation Company, providing for the operation of joint passenger service between Seattle and Tacoma, Wash., and Portland, Ore., and a pooling of the earnings, as in the interest of better service to the public and calculated to promote economy of operation and not to unduly restrain competition. The commission, however, reserves the right to modify such approval by imposing additional or different terms as a condition of its continuance, or to revoke it entirely if in the future that course seems proper. Such approval by the commission of a division of earnings contract is made possible by paragraph 1 of section 5 of the interstate commerce act as amended by the Transportation Act.

The Northern Pacific owns and operates a railroad between Seattle, Tacoma and Portland. Between Tacoma and Tenino, Wash., it has two lines, one called the Prairie Line and the other Point Defiance Line. The Great Northern has trackage rights over this railroad, with the exception of the Point Defiance line, under an agreement which grants to the Great Northern for 999 years equal joint possession and use in common with the Northern Pacific and such others as it may admit thereto. The Oregon-Washington also has trackage rights over the Northern Pacific between Tacoma and Portland, with the exception of the Prairie Line, under an agreement similar to that of the Great Northern. Between Seattle and Tacoma the Oregon-Washington operates a line, part of which is wholly owned by it and part of which is jointly owned with the Chicago, Milwaukee & St. Paul.

Originally the Northern Pacific was the only railroad which operated between Portland and the Washington points named. At that time it operated four passenger trains in each direction daily. Operations under the trackage agreements above referred to began in 1910, when four trains per day in each direction were added by the Oregon-Washington, and three trains each way daily by the Great Northern. As a result there were eleven passenger trains in each direction daily between Portland and Puget Sound points. About two years later the service was reduced to nine trains daily in each direction and during the war it was further reduced to six trains in each direction daily. That is the number now operated. Because of the inroads made upon applicants' passenger business by bus line and other competition, passenger revenues have gradually declined from year to year.

There has been no complaint by the public as to the reduction in the number of trains, the report says, but there has been and is considerable dissatisfaction because there are no fast trains or trains limited as to stops. The running time of present trains, except the slower night trains, is 6 hours and 40 minutes. Each carrier recognized that if it put on a fast train the others would likewise do so. The available traffic would not warrant this, and the result would be a waste of transportation, since the service furnished would be greatly in excess of the needs of the traveling public. Various plans were devised by the applicants in an effort to overcome the difficulties that were encountered. Finally, it was decided that the most reasonable and economical thing was to pool the earnings of all of the Portland-Tacoma-Seattle passenger trains and to operate them as a joint effort.

The contract provides for the operation of five trains in each direction daily between Seattle and Portland,

one of such trains to be limited as to stops and upon a fast schedule. There is also provision for a local passenger train in each direction daily between Centralia, Wash., and Portland. The same tracks, stations and appurtenant facilities as are now in use will continue to be used by the pool trains. Special trains which are run specifically for handling traffic local to the lines between Seattle and Portland are considered as pool trains. If a train originates at, or is destined to, a point beyond Seattle or Portland it will not be included in the pool account, nor, generally speaking, will trains which operate only in part on the tracks hereinbefore described be included.

Pool revenue is defined in the contract to be revenue derived from freight handled in passenger trains, passenger fares, surcharge excess baggage, parlor and chair car fares, United States mail, milk, express, newspapers, and from all other passenger train service, except revenue derived from dining and buffet service and Pullman Company contracts. In the case of traffic originating at points served by the pool trains destined for beyond, or originating at points beyond but destined to points served by the pool trains, or originating at and destined to points not served by the pool trains but passing over all or a part of the pool tracks, the revenue will be allocated on the bases of established divisions, mileage pro-rate or other similar methods. With the exception of express revenue derived from l.c.l. shipments, and revenue from milk and newspapers, the pool gross revenues will be divided among the carriers on the basis of the percentages which the gross revenues earned by each carrier in 1923 from its Portland-Seattle passenger trains, bore to the total gross revenue earned by all, and each carrier shall be entitled to receive from the revenues which accrue from the operation of the pool service the percentage of revenue in the various accounts which it received during the corresponding month of 1923, which is taken as a test period. The average of the last three months of 1924 is used as a test period for the division of revenue from express l.c.l. shipments, milk and newspapers. Equipment to be furnished by the respective carriers is also based on the year 1923 as a test period. The carriers have agreed to equalize expenses of operating the pool trains and charges for maintenance, so that each carrier shall sustain the same percentage of the aggregate of such expenses as it paid for the corresponding month in 1923.

The operation of passenger trains between Portland and Puget Sound points as a joint effort will enable carriers to arrange their schedules so as to result in greater convenience to the public, according to the report. In addition to the fast train, it will also be possible to operate the other trains on a somewhat shorter time schedule than is now done. The proposed schedule of pool trains will result in a direct saving of approximately 1,632 passenger car miles per day, or 595,680 passenger car miles per year.

"While the pooling arrangement will of necessity lessen the competition of carriers for traffic between points local to the tracks hereinbefore described, there will remain the same incentive for each carrier to strive for through business as now exists, because only the portion of the traffic which travels over the pool tracks will be subject to division of earnings. Nor will there be likelihood of any carrier furnishing shabby equipment for the pool operations, because to do so would undoubtedly reflect to its disadvantage at other points not included in the pool. Representatives of civic and other interests which will be affected by the passenger train service under the proposed contract, and officials of the rate regulatory bodies of the two states traversed, appeared at the hearing in support of the plan."

Railroad Legislation in Congress

*Howell-Barkley bill abandoned—Gooding bill killed—
Increased appropriation for I. C. C.*

WASHINGTON, D. C.

QUESTIONS of railroad legislation have been forced to the front during the past few days (although the steering committees of Congress have placed but one railroad bill on the program for action before the session closes on March 4) through efforts to have bills attached as riders to appropriation bills which their advocates had been unable to bring to a vote directly. The Senate in this way has again passed the bill to abolish the Pullman surcharge and an effort may be made to do the same thing for the Gooding bill, which has been killed by the House committee. Senator Howell's effort to abolish the Railroad Labor Board by cutting off its appropriation in lieu of having his bill passed met with failure. The bill which has been placed on the program is the one to reduce the rate on interest on railroad notes to the government, which is awaiting action on the Senate calendar.

Gooding Bill Tabled by House Committee

The Gooding long-and-short-haul bill was killed by the House committee on interstate and foreign commerce on February 11, when the committee, after two days of consideration of the bill in executive session, following nearly three weeks of hearings on the bill, voted 11 to 6 to table the measure. This vote was taken after several previous votes had been taken on various amendments, including proposals to restrict the prohibition to fourth section departures to meet water competition or to those affecting transcontinental rates. The first vote taken, when the committee met on February 10, was on reporting the bill favorably as it stood. This was defeated 16 to 4. The next vote taken was on the question of postponing its consideration and resulted in a tie, 10 to 10. When the final vote was taken three members of the committee were absent and one did not vote for or against the bill.

It is reported that Senator Gooding is planning another effort to pass the bill by attaching it as a rider to the Cape Cod Canal bill or some other bill in the Senate which has been passed by the House and thus getting it to conference, although the Senate has itself passed the Gooding bill. In general the House is inclined to resent the practice of the Senate of attaching riders to its bills.

Senator Gooding has announced his intention of proposing as an amendment to the Cape Cod Canal bill a simple form of long and short haul clause which merely prohibits fourth section relief to railroads for the purpose of meeting water competition.

Increased Appropriation for I.C.C.

The independent offices appropriation bill, carrying an appropriation of \$6,853,962 for the Interstate Commerce Commission for the fiscal year 1926, including \$1,946,462 for valuation work, was passed by the Senate on February 14 without debate on the appropriation itself. The amount was as recommended by the House appropriations committee and is an increase of \$2,212,098 as compared with the appropriation for this year as well as an increase of \$1,940,462 as compared with the estimate of the Bureau of the Budget. The bill had been passed by the House and now goes to conference because the Senate had added the amendment to abolish the Pullman surcharge. The

bill also appropriates \$296,805 for the Railroad Labor Board, a reduction of \$25,395 as compared with this years appropriation.

Senate Votes to Retain Labor Board

The issues raised by the Howell-Barkley bill were debated in the Senate on February 14 on an amendment proposed by Senator Howell to the independent offices appropriation bill to omit the appropriation for the Railroad Labor Board for the fiscal year 1926. The amendment was finally defeated by a vote of 42 to 21, those voting for the amendment being as follows: Senators Ashurst, Brookhart, Copeland, Dill, Gooding, Harris, Heflin, Howell, Johnson of California, Johnson of Minnesota, Jones of New Mexico, Kendrick, King, McKellar, Norris, Sheppard, Shipstead, Simmons, Smith, Walsh of Montana, and Wheeler.

Senator Howell made a long speech attacking the Railroad Labor Board, in which he inserted many statements of the railroad labor leaders, and said that the "futility" of the board was demonstrated by the fact that the number of disputes docketed by the board had declined from 11,564 in 1923 to 841 in 1924, because the unions will not take cases to the board where it can be avoided, because of the increase number of company unions and because other and less expensive means have been devised for the settlement of grievances.

He said that 16 roll calls in the House, on the various motions in connection with the taking of the bill from the House committee on interstate and foreign commerce, had shown a majority in favor of the Howell-Barkley bill but that a Republican filibuster had prevented a direct vote on the bill. As to the attempts to put the bill through the Senate he said that after it had been reported by the committee by a vote of 11 to 3 "it was thought best to determine if those representing the railroad managements would not get together with their employees and arrive at some conclusion with respect to this measure. Attempts of that character have been made time and again; and finally, within the last week or ten days, it was concluded that the managements would do nothing; would not even confer. After waiting all that time, I called the attention of those in charge of the business of the Senate to the advisability of placing this bill upon the program for consideration before the close of the session. Nothing has been done with reference thereto. I believe this amendment would be effective."

Senator Bruce of Maryland opposed the amendment, saying the bill had made no real headway in the House and apparently none in the Senate and that a proposition of such gravity should come up in the regular way. He said he thought the same sentiment exists on the Democratic side of the Senate as on the Republican side and that a majority of the Senate is opposed to the abolition of the Labor Board. Senator Pittman asked unanimous consent to substitute the Howell bill as amended by the Senate committee for the amendment to strike out the appropriation but there was objection. Senators Dill, Shipstead, Pittman and King, spoke in favor of abolishing the board but Senator Pittman said it should be superseded by a new board and he refrained from voting on the amendment.

A substitute bill to provide for the reduction of interest rate on indebtedness of the railroads to the federal government, if found necessary by the Interstate Commerce Commission, has been introduced in the House by Representative Madden as H. R. 12,234. It is very similar to the bill reported by the Senate committee except that it omits the requirement that the commission shall find that a reduction in the rate is necessary to avert a receivership as a prerequisite to a certificate to the Treasury that the reduction should be allowed.

The Senate committee on interstate commerce has as yet taken no action toward recommending for or against confirmation of the President's nomination of Thomas F. Woodlock of New York as a member of the Interstate Commerce Commission to succeed Mark W. Potter, and it is understood that it does not intend to take any action. After March 4 the nomination might be taken up by the new Senate, which has been called in extra session as of that date, or the President might give Mr. Woodlock a recess appointment. Meanwhile Commissioner Potter's resignation has not yet taken effect.

The House on February 17 passed the bill which was passed by the Senate at the last session authorizing the Secretary of War to sell the Hoboken Manufacturers' Railroad to the Port of New York Authority and to accept the latter's bonds in payment.

The Howell-Barkley bill was definitely abandoned on February 16 when Representative Barkley, who had introduced the bill in the House and who had led the fight for it at the last session of Congress, announced that it had been decided not to push the bill at this session but that efforts to bring about conferences with the railroad managers in an attempt to bring about an agreement on a bill will continue during the Congressional recess. At the same time a subcommittee representing the railroad labor organizations issued a statement outlining their efforts to obtain the passage of the bill and charging the railroads with "making war" on their employees. They said a course of future action would be considered at a meeting of the executives of the organizations at Chicago on February 19. After outlining the history of the bill Representative Barkley said in part:

Acting upon the political pronouncements of the three parties in the last campaign, and upon the suggestion of the President, the friends of the Howell-Barkley bill sought the co-operation of the administration in the further consideration of the bill in this session of Congress. Numerous conferences were had with Senator Cummins, the co-author of the present transportation act, and with Secretary of Commerce Hoover, and they had many conferences with the President upon the subject. In the course of these conferences special efforts were made to secure the co-operation of the railway presidents in the preparation and consideration of what all parties agreed to be a necessary change in and amendment of the present law.

The efforts to secure the desired conferences with the railway executives has thus far failed. It was admitted by representatives of the administration that the employees had done what they could to make such conferences possible. President Coolidge had himself on a previous occasion said that it was desirable that the two sides get together and come to an agreement over labor legislation.

In all fairness, I wish to say that some of the railroad presidents were anxious to co-operate, and did their best to make these conferences possible and of such extent as to represent the railroad executives generally. But a majority of their colleagues rejected the idea, and up to the present there have been no conferences between the executives and the representatives of the employees on the subject.

"With a few notable exceptions, the railroad presidents are now engaged in attempting to destroy every genuine employees' organization which is not too powerful to be attacked," the sub-committee declared in its statement. "They are establishing wherever possible fictitious company unions—paper organizations dominated by the railroads—to make a farce of collective bargaining.

"The railway labor organizations have no program of attack upon the railroads. They are not trying to bring

about government ownership. They are not seeking to control the operation of the railroads. They have a common program of peace, but if the railroad presidents are determined to make war upon them day in and day out, these organizations will seek a common program of defense."

Senate Investigation of Consolidations Proposed

An investigation by the Senate committee on interstate commerce of the proposed "consolidation" of the New York, Chicago & St. Louis, Chesapeake & Ohio, Hocking Valley, Erie and Pere Marquette, and also the "consolidations which have been or are now being consummated by the Missouri Pacific," is proposed in a resolution submitted to the Senate on February 12 by Senator Howell of Nebraska, which was referred to the committee to audit and control the contingent expenses of the Senate. Senator Howell declared in the resolution that the fiscal agents and financial promoters of the Nickel Plate plan are J. P. Morgan & Co., and the First National Bank, "which already own or control a large part of the railroad properties located in the Eastern states as well as in other sections of the country," that the "proposed consolidation will result in giving the Morgan-First National financiers, according to statements appearing in the financial columns of the New York American of August 9, 1924, control of railroads in the Eastern states alone with 37,000 miles of road and approximately \$3,000,000,000 of capital, thus creating a substantial control of transportation in this great industrial territory"; that the "proposed consolidation by further concentrating this control of the Nation's fuel supply increasingly endangers the rights of the consuming public"; that the plan "violates the plans of consolidation heretofore announced by the Interstate Commerce Commission" and "if carried out along the lines now laid down will make it impossible for the commission to provide for effectively competing systems in the territory traversed by the proposed consolidation"; and that "the majority of the Interstate Commerce Commission in their decision in this Nickel Plate-Clover Leaf consolidation case declared their inability to restrain or modify mergers consummated under state laws and thus apparently abdicated the broad powers conferred upon said commission by section 5 of the Interstate commerce act." Reference is also made to the criticisms by the commission of the bankers' compensation in the Missouri Pacific case and it is stated that it is apparent from the commission's decisions "that it feels powerless under existing conditions to cope with the problems presented by such consolidations." Other "whereases" in the resolution state that "the negotiations in the Nickel Plate case are being privately conducted by the promoters "who reveal the terms and conditions only when they are accomplished facts"; that "the precedents being established will control future consolidations which may ultimately embrace all the railroads of the Nation" and that the "public interests demands that the Congress should inform itself fully regarding such consolidations and take such steps as may be necessary in the premises." The committee would be directed by the resolution to make its investigation "in connection with its proposed inquiry into the general question of railroad consolidations," which apparently refers to the hearings held recently on the Cummins bill which were discontinued for this session.

In a statement regarding the resolution Senator Howell said that the "proposed Nickel Plate-Erie consolidation most nearly parallels the lines of the New York Central system, which is already controlled by the Morgan-First National Bank group," and that "thus these two competing systems will be under single financial control, and any effective competition will be nullified."

Can the "19" Order Be Used Alone?

Prize winning papers discuss advantages and disadvantages of both forms of train operation



The Dispatcher at Work

THE active interest which railway men have taken during the past few years in ways of reducing operating costs has brought about a definite trend toward the exclusive use of the Form "19" order in place of the Form "31" order on numerous roads. There is nothing new in the use of the "19" order, for the standard code of 1889 authorized the use of either Form "19" or Form "31," or a combination of the two, for the movement of trains. However, when this subject was discussed as recently as 15 years ago by the Train Dispatchers' Association for an entire half day, only 3 members of the 175 present advocated the use of the "19" order. A decided change has occurred in more recent years and the fact that a committee of the American Association of Railroad Superintendents at the convention of that organization last June recommended the exclusive use of the Form "19" indicates that this practice is becoming more general.

In order that up-to-date information on this subject may be available for those interested, the *Railway Age* conducted a competition on the use of the Form "19" train-order as compared to the Form "31." The widespread interest in this subject was evidenced by the fact

that 131 papers were submitted by railroad men from all parts of the United States and Canada. The majority of these writers favor the use of the Form "19" but a few submitted good arguments for the retention of Form "31" under certain conditions.

At the close of the contest, the papers were submitted to E. P. Bracken, operating vice-president of the Chicago, Burlington & Quincy; S. Ennes, previously president and general manager of the Wheeling & Lake Erie, and F. H. Hammill, executive vice-president of the Chicago, Rock Island & Pacific. This committee awarded the first prize of \$125 to

V. Parvin, superintendent, Ann Arbor Railroad, Owosso, Mich., and second prize of \$75 to C. H. Carter, assistant transportation inspector, Chicago, Rock Island & Pacific, Chicago. Other papers receiving favorable mention were submitted by A. G. Smart, general superintendent, Chicago, Burlington & Quincy; Harris C. Cross, dispatcher, St. Louis-Southwestern; E. R. Guye, train dispatcher, Oregon-Washington Railroad & Navigation Company; Leo F. Creagan, train dispatcher, Union Pacific; H. G. Duckwitz, supervisor, Service Bureau, Illinois Central; Paul H. Pearson, assistant train dispatcher, Boston & Maine; W. T. Quirk, general inspector transportation, Atchison, Topeka & Santa Fe; G. E. Collingwood, editor, Standard Train Rule Examinations and T. F. Gibbs, rule inspector, Grand Trunk.

Opposing the "19"

The paper by B. H. McNaney, chairman, Board of Train Rules, Chicago, Milwaukee & St. Paul, was selected as the best one opposing the exclusive use of the "19" order. The papers by Mr. Parvin and Mr. McNaney are published herewith and others will follow in succeeding issues.

How the "19" Order Is Used Exclusively

By V. Parvin

Superintendent, Ann Arbor Railroad, Owosso, Michigan.

The exclusive use of the "19" train-order has long been advocated by the writer. As a train dispatcher I came to the conclusion that the "31" train-order was entirely unnecessary. After passing from the position of train dispatcher to that of an officer, and considering this question from every possible angle, my convictions in the matter were strengthened.

In making any change of importance in operating rules or practices, the matter of safety should be given first consideration. The "19" train-order is not only as safe as the "31" but I believe time will prove it to be safer.

The handling of either "19" or "31" train-orders involves three classes of employees, viz.; train dispatchers, telegraph or telephone operators, and train and engine crews. The first mentioned, issues; the second delivers;

and the third executes. No one, I believe, will dispute the fact that the train dispatcher can issue a "19" train-order as correctly as a "31."

In the delivery of orders, the elimination of the divided responsibility makes the use of the "19" train-order safer than the "31." Divided responsibility leads to carelessness, oversight and neglect. If the employee understands that the whole responsibility rests with him, he is going to endeavor to fulfil his duty. After the telegraph or telephone operator has received the train-order and the train-order board is in the stop position, there is no more reason for the train to disregard the position of the board when a "19" train-order is at the station for delivery than if it were a "31." Furthermore the operator is less liable to overlook the delivery of a "19" train-order than a

"31." The reason for this is partly psychological, but in the main it is because he has a personal responsibility, as far as the "19" train-order is concerned, and his responsibility is divided in connection with the "31."

Those opposed to the adoption of the "19" train-order continue to argue that in case of an oversight on the part of the operator, the dispatcher has a check on the delivery of the "31" train-order, which in itself lessens the responsibility of the operator, but does not insure the delivery of the order for the reason that the dispatcher does not (there may be a few exceptions) and should not be required to take this responsibility. The average train dispatcher has a multitude of duties and is a busy man with a great deal on his mind. With orders scattered over his entire district, is it in line with good practice and considerations of safety to hold him responsible for the delivery of individual train-orders at stations where there is an operator who is both intelligent and competent? If the operator does not possess these requisites he should not be employed.

Then, on the other hand, two or more "31" train-orders must be placed at a station to make it safe or to insure their delivery, otherwise how can the dispatcher check up on the delivery of one "31" train-order when the train can arrive and depart without his knowledge? Yet the operator has inadvertently learned to depend on the train dispatcher in connection with the delivery of a "31" train-order. In the case of a "19" train-order, however, he realizes that when he has given his signature to the order and the order has been made complete, he and he alone is responsible for its delivery, and with this fact impressed upon his mind, and with good supervision in the handling of train-orders, there will be fewer failures in the delivery of "19" train-orders, than "31."

During the four years and four months that the exclusive use of the "19" train-order has been in effect on the Ann Arbor Railroad without either manual or automatic block, it has been given as severe a test as it can possibly be subjected to. We operate what might be considered a winter railroad, as the west end of the line is in a snow belt for a distance of 145 miles. During six weeks of January and February, 1923, we ran 7,000 snow plow-miles in this territory. Blizzards were so severe that passenger enginemen had difficulty in locating the stations and actually got off their engines out in the country and walked in to determine the position of an interlocker signal at a railroad crossing. Regardless of such conditions, the "19" train-order has worked out satisfactorily in every respect.

The use of the "19" train-order will go further in increasing the capacity of a single track railroad than any one thing, outside of automatic signals, because it keeps trains moving, and a standing train neither produces efficiency nor pays dividends. On our railroad, which is 292 miles in length, 71 freight trains were stopped in August, 1919, for the delivery of train-orders and 96 trains delayed for train-orders after having stopped for other purposes. In January, 1920, 110 freight trains were stopped for train-orders and 133 trains delayed for train-orders after having stopped for other purposes. These stops, as well as the delays for train-orders, have been totally eliminated by the use of the "19" train-order.

Proper Execution the Gage of Efficiency

The average train crew consists of five men, all of whom can read and write, and after the delivery of the order, these men can read, understand and execute a "19" order the same as a "31" order. If this were not a fact it would be unsafe (using the argument of those opposed to the exclusive use of the "19" train-order) to deliver a

crew an advancing order on Form "19," as is done by all railroads, and when accidents happen, as they do and to a certain extent will continue, the records indicate that there are as many failures to comply with the "31" train-order as the "19."

Of the accidents investigated by the Interstate Commerce Commission for the year 1923, nine were due to failure to comply with train orders as follows:

One head-on collision, failure to comply with meet order, Form-"19."

One head-on collision, failure to comply with meet order, Form-"31."

One head-on collision, failure to comply with wait order, Form-"31."

One head-on collision, failure to comply with meet order, Form-"19," in manual block territory.

One head-on collision, failure to comply with a "19" train-order in manual block territory.

One head-on collision, failure to comply with a "31" train-order.

One head-on collision, failure to comply with block restrictions received with a "31" train-order.

One head-on collision, failure to comply with a "19" order.

One head-on collision, failure to deliver a "31" order.

While I do not have positive information, it is my understanding that of the four failures involving the "19" order, three were advancing orders and one restricting.

Program for Changing to Form-19

The measures necessary to take in the adoption of these practices are very simple. On our railroad the following bulletin was issued on May 17, 1920:

Effective June 1, 1920, the "19" train-orders will be used for the purpose of restricting trains, as well as for the purpose of conferring additional rights.

The use of the "31" order will be entirely done away with except where its use may be required for some special purpose.

When a "19" order is placed for a train, restricting the right of such train at the point where the order is placed, the train must be brought to a stop before the order is delivered.

This plan makes it very necessary that operators show on their clearance cards the correct numbers of the orders to be delivered to a train and it will be essential that enginemen and trainmen check order numbers very closely against clearance cards.

Prior to the effective date, the trainmasters visited each station and telegraph office for the purpose of explaining to the telegraph operators anything which might not be fully understood. Since the effective date (June 1, 1920) the "19" train-order has been used exclusively and without amending the original instructions in the slightest degree. On January 1, 1924, we issued a new book of rules in which the "31" train-order is not mentioned.

Summary of the Results of Form-19

The results obtained have been far beyond our expectations although there is no exact way of determining all of the advantages. However, in keeping the trains moving we avoid the wear and tear on equipment, which lessens the car repair work, and increases the miles per day, we reduce the coal consumption, and also keep train crews and telegraph operators on the alert, as the train crews must be in a position to grab the hook in the case of a red board and the telegraph operator must be wide-awake to avoid a failure to be out in sufficient time to hand up the train-orders without stopping the train. In stopping trains for train-orders, it is not only the one individual train that is delayed, but this often results in a delay to many other trains, especially in a busy territory on railroads which are located in those sections of the country where we have heavy snows and zero or sub-zero weather. The exclusive use of the "19" order increases the efficiency of the train dispatchers, because their work is not being continually interrupted by a telegraph

or telephone operator giving the signature to a "31" train-order.

The following statement will indicate increased efficiency for the months of June, July and August, 1924, as compared with the same months in 1919, the same comparison holding good during any other months of the year. Our management is fully convinced that these results are largely due to the exclusive use of the "19" train-order:

	Freight train miles	Speed	Gross ton-miles per train hour	Per cent overtime freight train service
June 1919.....	46,424	10.1	14,513	18.10
1924.....	47,155	13.1	20,617	9.96
July 1919.....	50,019	9.7	14,281	21.09
1924.....	52,696	13.3	20,830	9.
August 1919.....	51,322	10.3	14,152	18.36
1924.....	54,208	13.1	20,567	11.24

The result of the exclusive use of the "19" train-order in the handling of passenger trains is reflected in an improved on-time record at terminals.

Why the Form-31 Should Be Retained

By B. H. McNaney

Chairman, Board of Train Rules, Chicago, Milwaukee & St. Paul, Milwaukee, Wis.

In my early days of railroading, 1865-1887, I served in the capacity of brakeman, conductor, trainmaster and superintendent on two of the largest and busiest railroads, and as a conductor I never signed for a train-order nor obtained a clearance card, as there were no such things as standard rules, standard time, watch inspection or standard telegraph order forms. Worst of all, the division train dispatcher was considered the absolute and unquestioned authority on train operation by telegraph, as he patented and prescribed all rules and train-order forms in use on the railroad.

In those days, the signing of an order or obtaining of a clearance card was not regarded as essential to train operations. This loose method of running trains under the "Single Order" system and the daring liberties taken by trick dispatchers to hurry trains over the road, caused numerous accidents and a general uneasiness among railroad officers throughout the country. There were serious collisions, resulting in loss of life and destruction of property, due to dispatchers issuing "lap" orders, and the failure of inexperienced operators to deliver train-orders to those who were to execute them.

Railroad managers became alarmed and held conferences to see what could be done to improve train operation by telegraph instructions. They appointed a committee of seven members to draft a system of uniform telegraph orders, which would secure the highest degree of safety and the largest measure of efficiency for all American railroads. The committee sat several days, having before it many experienced train dispatchers and practical operating officers. The committee was impressed with the importance of adopting two train-order forms to meet the requirements of safety and efficiency in dispatching trains, and then and there formulated the "19" and "31" order forms for the Standard Code.

Prime Requisite, Safety

I have reviewed at some length the history of train dispatching because of the present movement to induce railroad managers to revert to the old system of handling trains by telegraph under the "19" order form exclusively, which is founded on arguments for economies, such as fewer stops for trains, etc. The statements of those who advocate the exclusive use of the "19" order are so sweeping in scope as to require very close scrutiny. For instance, every operating officer knows that a "19" order will not prevent a train stopping at regular coaling and watering stations or railroad crossings, entering or leaving a siding, or from wasting of water and fuel on account of engines blowing off. Another word in regard to the "19" order,—it has been weighed in the balance by many able railroad managers and found wanting in the one indispensable qualification—Safety.

It seems like going out of the way to face a hazard when train dispatchers use a "19" instead of a "31" for track orders. Permit me to give an illustration of the uncertainties of the "19" and the certainties of a "31" order when restricting train movements over any kind of defective track conditions. Some time ago I investigated a case where a dispatcher wished to protect a broken rail. The dispatcher issued a "19" order to cover the situation. The receiving operator delivered the "19" order to the head brakeman, who handed it to the engineman; the engineman forgot about it, and consequently the train was derailed. At the investigation both the conductor and the engineman made affidavits that they never received the "19" order in question. The dispatcher gave as his reason for issuing the "19" order contrary to general instructions, that he had always assumed that a "19" order was just as safe as a "31" for any purpose. In determining the primary cause of the accident, it was fixed definitely on the train dispatcher for violating the rules. Now, if the order had been signed for, there could be no argument as to responsibility. Therefore the failure of the "19" order to function in this instance, like many other cases that I have examined, bears out the contention that the "19" is not as safe as the "31" order form, where veracity is likely to enter, nor where precarious train movements are involved in train dispatching.

Where "31" Should Be Used

For many years it has been my privilege to examine and instruct train dispatchers on the use and abuse of the "19" and "31" orders, explaining that under the Standard Rules the "19" order can be used for any purpose; but that it must be understood that one of the greatest outstanding features in handling trains by telegraph or telephone instructions is safety. In the following cases a "31" order form is the better order to use, as it guards against any contingent misunderstanding between dispatchers, operators, conductors and enginemen:

- (1) When necessary to restrict a train at a point that is not a train-order office or at one at which the office is closed.
- (2) When annulling a train that has assumed its schedule on the road.
- (3) When reducing a time order.
- (4) When receipting for a time-table.
- (5) When restricting a train that has been cleared or of which the engine has passed the train-order signal.
- (6) When restricting a work extra when such work extra is within the territory where the order restricts.
- (7) When running a train against the current of traffic.
- (8) When running trains over defective tracks.

If these conditions arise on the train sheet, I can say from experience that any substantial benefits which may be derived by issuing a "19" order instead of a "31," are of small consequence as compared with the comfortable

feeling superintendents have when they know that a dispatcher is going to issue a "31" order to the superior train when the meet or wait is at a non-telegraph station on a stormy or foggy night.

Advantages of 19 Form Exaggerated

I am often approached by dispatchers, when checking train sheets and train-order books, with this question: "Why don't railroad managers abolish the "31" order?" I ask: "Why?" They then try to stampede me with economic arguments on overtime, stopping tonnage trains, waste of coal and water, pulling out drawbars, etc. When I ask them to show in their train-order books where the issuing of a "31" order produced a case referred to, they usually wind up with an alibi. I have proofs every day that the issuing of a "31" order by an experienced dispatcher rarely, if ever, delays a passenger or freight train. The upshot of all this is that the proposal to abolish the "31" and use the "19" order form exclusively is a radical idea. At first sight it seems safe and sound, but before its adoption it will provoke a challenge in the minds of many capable operating officers.

19 Order Not Safe Where

Automatic Signals Are Not in Use

Since the question of abolishing the "31" order has been given such wide publicity, I have interviewed 16 division superintendents, all of whom were formerly dispatchers. Not one of these superintendents approved of the exclusive use of the "19" order, and all expressed the opinion that it would be a standing menace to safety in train operations. I am sure I can echo the sentiments of every conservative operating officer when I say it is a mischievous fallacy for any one to advocate the exclusive use of the "19" order except on such railroads as are double-tracked and equipped with a modern automatic block signal system or automatic train control.

In conclusion, the "19" and "31" train-order forms have certain functions and if train dispatchers will use these train-order forms as directed by the general officers of the railroad, I can say from observing their use and abuse that they fulfill all requirements of safety and efficiency. I am certain that there are many railroad managers who will not subscribe to the abolishment of the "31" order on single-track divisions where no form of block signal is used, or on divisions or sub-divisions where the manual block is extended or where train movements are made over defective track or bridges. A final word:—the "31" order form is an established rule on all American railroads and its abolishment will not be universally recognized by general managers who aspire to get the highest degree of safety and the greatest measure of efficiency in handling transportation. My recommendation is, therefore, that both the "19" and "31" order forms be retained in the rules and the "31" train-order be used by train dispatchers as directed by instructions from their respective general managers.

Southern Roads Allowed Higher Divisions

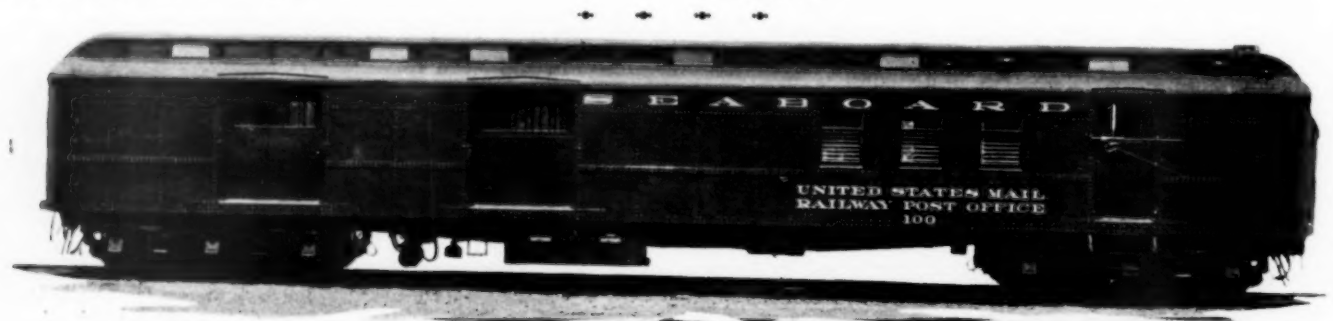
THE Interstate Commerce Commission has issued a decision finding that the divisions accorded the southern carriers out of joint eastbound transcontinental class and commodity rates, from points in Pacific coast territory to points in southern territory, are unreasonable and inequitable, and prescribing reasonable divisions for the future, effective April 6, on a percentage basis, subject, however, to the local rates from the respective gateways to destination points as maxima. It is stated that, effective May 1, 1922, the central and trunkline carriers were accorded increased divisions east of Chicago on transcontinental traffic and that it was stated on behalf of the transcontinental lines that they were agreeable, in so far as groups 1 to 6 were concerned, to making similar increases retroactive to the southeastern carriers, and that the commission assumes that this will be done. The transcontinental lines, however, took the position that no increases should be allowed to groups 7, 8 and 9. The commission says in its report:

The evidence in this case justifies the statement (which apparently is not disputed) that traffic density as a whole in the southern district exceeds that in the western district, but that the general rate levels in the western district are higher than in the southern; also, that the operating expenses of the carriers in the western district are proportionately higher than those of the carriers in the southern district and the latter have been for some time in the past, and are, yielding a higher return on their investment than the former. However, it is probable that comparisons between the southern and western districts as a whole do not in all respects accurately reflect the conditions under which the traffic under consideration is handled. The transcontinental lines have all-rail hauls in excess of 2,000 miles to the respective Mississippi river gateways, largely over main lines of traffic density greater than the average in western territory, while the hauls of the southeastern lines are shorter and probably consist to a less degree of main-line movements, being distributive to destinations throughout southern territory. The average haul from New Orleans to Group 3 is shown as 161 miles and from East St. Louis to Group 7 as 897 miles, the former being the shortest and the latter the longest group mileage. The average hauls to the other groups range between these distances.

The present transcontinental rates are blanketed throughout the southeastern territory and are lower than the southeastern lines prefer to have. The maintenance of this blanket system of rates is apparently to the interest of the transcontinental lines as well as of the public.

While the divisions received by the southeastern lines prior to federal control were to an extent dictated by these lines, the present divisions were apparently promulgated without consultation with, or consent of, the southeastern lines, and in a sense may be said to have been forced on them. These divisions appear to be substantially on the basis of a mileage prorate. Considering only the respective hauls on this traffic west and east of the Mississippi river, the southeastern lines are entitled to receive more than a mileage prorate. In arriving at reasonable and equitable divisions in this proceeding we have considered all of the circumstances and conditions presented which should guide us in fixing divisions on this traffic.

The evidence justifies the continuance of the plan of grouping the Southeast and fixing divisions on a percentage basis to the several groups.



Seaboard Air Line Baggage and Mail Car—Built by American Car & Foundry Company

New Haven Sells Bonds to Patrons

*Banks, industries, insurance companies and others take
\$23,000,000 refunding issue*

A NEW chapter in American railway history is signalized in the announcement made on Monday of the present week that banks, industrial concerns, insurance companies and others in the territory served by the New Haven had already subscribed practically the full amount of the \$23,000,000 15-year 6 per cent bonds to be issued to refund the European loan of the same amount due April 1. The fact that the amount of the new issue is already subscribed is guaranty of a large oversubscription. This follows for two reasons; the subscription lists do not close until March 7, and the holders of the present European loan are given the privilege, as also announced on Monday, of exchanging such of their present holdings as they do not desire paid in cash, par for par for the new issue, the right of deposit for exchange not expiring until March 14.

The success which the New Haven has had in thus

dustries and insurance companies \$9,376,500; individuals \$1,422,000, and the directors \$1,000,000. Employees of the company have been encouraged to subscribe, and have been assisted by a partial payment plan.

The New Loan

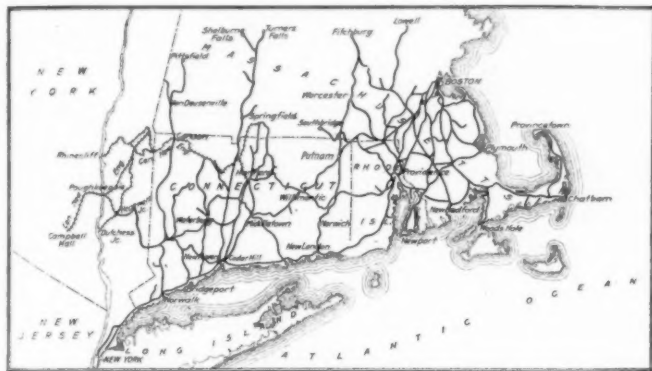
The European loan was issued originally in 1907; it bore 4 per cent interest and matured on April 1, 1922. Upon maturity, arrangements were made to pay 10 per cent in cash, and to extend the remaining 90 per cent for three years at 7 per cent. It is estimated that, of the present amount outstanding, about \$18,000,000 is held in this country. The new bonds bear 6 per cent interest, mature in 15 years, are secured by an equal amount of 6 per cent first and refunding mortgage bonds. They are redeemable at 105 on any interest date and a sinking fund of 2 per cent annually is to be established, 1 per cent payable each six months. This sinking fund is to be used to purchase or call outstanding bonds, the interest upon which is added to the sinking fund so that the accumulation will retire more than half of the bonds before maturity in 1940. The collateral remains unchanged until maturity. The result is that the new bonds are well secured and more readily salable than an issue of the first mortgage bonds themselves would be. With the maturity of the European loan met, the New Haven has no important maturities of funded debt until 1940, except the advances made by the government during or following the period of federal control, which advances total about \$88,000,000, and mature principally between 1930 and 1935.

Plan Proposed by Connecticut Industrial Leaders

The following statement prepared by Vice-President E. G. Buckland of the New Haven outlines the genesis and working out of the interesting plan of financing which the New Haven has successfully accomplished:

"About nine months ago in the latter part of May, E. Kent Hubbard, president of the Manufacturers Association of Connecticut, said that he and the directors felt considerable interest and some anxiety because the New Haven's European Loan of \$23,000,000, would fall due on April 1, 1925, and no plans so far had appeared by which the obligation was to be met. I told him confidentially that the only plan which we then had in mind was a repetition of our experience in 1922 by paying part cash and obtaining an extension of the balance. He said that many of the manufacturers had expressed satisfaction because of the marked improvement in the transportation service rendered by the company, and they were fearful lest the payment of so large a sum as would be required to secure an extension of the European Loan would so deplete the New Haven's cash as to disable it from making additions and betterments, as a consequence of which there would be a failure in adequate service and a consequent suffering by industry. I told him that I shared that fear, but that with the New Haven's improvement in income and in operation the company was doing the best it could, and hoped to continue satisfactory service.

"On June 4, 1924, I attended, by invitation, at Torrington, Conn., a meeting of the directors of the Manufacturers Association, and there told the same story, whereupon a discussion was started by representatives of industry as to whether it was not industry's job to take out a policy of insurance for adequate transportation on the New Haven Company's lines. Some of those present remarked that a manufacturing concern insured itself against fire, against accident liability and secured other kinds of indemnity. Why was it not logical to insure itself against insufficient transportation, because transportation was so essential to the prosperity of industry and the lack of transportation so quickly resulted in losses? When asked to comment on the proposition I said that



The New York, New Haven & Hartford

meeting the maturity on its European loan is, if nothing more, a remarkable tribute to the regard in which the New Haven is held in the communities which it serves. The subscriptions have come from its patrons who have subscribed from the motive of taking out transportation insurance, as it has been termed, but who must have been influenced equally by the feeling of good will existing between themselves and the railroad. It is important that such a large issue could have been sold over the counter, so to speak, without banking and underwriting commissions. The banks with which the New Haven has dealt in the past were in favor of the plan, and banks were large subscribers. Announcement of the success of the financing came at an opportune time. On the same day, there was made public the New Haven's 1924 statement of earnings. It showed a net after fixed charges of about \$3,000,000, and that 1924 was the first year since 1917 in which the road had earned its charges; in 1923 there was a deficit approximating \$3,000,000.

Banks, Industries, Insurance

Companies and Others Subscribed

Actually up to Saturday, February 14, the subscriptions had totaled \$21,316,500, of which \$5,848,000 had been subscribed from Connecticut; \$993,400 from Rhode Island; \$6,168,300 from Massachusetts; \$6,682,000 from New York and the remainder, \$1,624,800, from miscellaneous sources. Banks had subscribed \$9,517,000; in-

I felt it was inherently sound from an economic as well as from every other standpoint, but that it was novel and one which I had not thought of putting forward because I did not know the attitude of industry. I observed, however, that the cost of the insurance policy would be the difference between the par value of the New Haven bonds and their market value for which they could be sold, and that if industry believed as I did that the New Haven would pay dollar for dollar on every obligation when due, the insurance policy would not only cost nothing, but the investment would pay six per cent. Thereupon, the present committee was appointed with instructions to inquire into the subject and report at a later date, and in the meantime to communicate with similar organizations in Rhode Island and Massachusetts. The summer and autumn of 1924 were occupied by this work. Organizations have been effected in Rhode Island and Massachusetts, and similar committees are acting in those states.

"In the meantime it seemed to us of the railroad that we could best show our appreciation of this interest on the part of industry by doing what we could to help ourselves. We went to the banks who in years past had been helpful, placed the proposition before them, and it not only received their approval but they agreed to help by taking subscriptions at par without commission or discount on the same basis as industry proposed to subscribe. We also went to those concerns of whom we purchase standard material (our purchases amounting in the year to nearly \$25,000,000) to our stockholders, our bondholders and our employees.

"During these months the company continued to earn surpluses and closed the year with a surplus of \$3,000,000,—the first surplus since the company was taken under federal control in 1918.

"The results from the banks, material and supply concerns, stockholders, bondholders and employees were surprisingly favorable. Enough of them have already subscribed so that with what it may be confidently expected will follow from industry and other sources, a full subscription is in sight. This is most encouraging. The New Haven has no floating debt, it does not owe a dollar to any bank, it does not owe a dollar outside of its funded debt and its current liabilities, the latter being much less than its current assets. With the European Loan financed, it has not maturities of consequence before 1930 when part of its loans from the government fall due. These government loans, it is believed, can be satisfactorily cared for upon maturity. The outlook is for an increased surplus in 1925 if present business

indications can be relied upon. . . . In the last ten years the company has spent more than \$65,000,000 in improving its roadway and structures and increasing its equipment. As a result, it has so quickened the movement of its traffic that it is doing more business and doing it more satisfactorily with 6,000 fewer cars, lessening the expenses of operating and cutting down the cost of car hire."

Further Possibilities of This Idea

A question that will naturally arise relates to the further possibilities of a carrier's selling its bonds over the counter as the New Haven has so successfully done in this case. It is noteworthy that only last week the New Haven itself sold through J. P. Morgan & Co., an issue of \$3,645,000 equipment trust certificates, secured, incidentally, by an unusual assemblage of equipment consisting of steam locomotives, including several of the three cylinder design, electric locomotives, electric multiple unit cars and gasoline rail motor cars, some wrecking cranes and, finally, a gas-electric car. The equipment trust certificates, of course, rank higher as securities than any that the New Haven might have issued to refund its European loan. In other words, quite different conditions apply.

The noteworthy feature in connection with the New Haven's financing is well exemplified in the statement by President Clifford S. Anderson of the Associated Industries of Massachusetts, transmitting to the membership action by the executive committee with reference to the New Haven plan. The statement said:

"It is the view of the executive committee of this organization that it is not a function of the Associated Industries to advise its members regarding their investments. The committee feels, however, that it would be delinquent in its duty to its members, and in its public relations, if it did not call to the attention of our membership, especially so much of it as is served by the New Haven road, this outstanding opportunity to translate the good-

TABLE I—NEW YORK, NEW HAVEN & HARTFORD CONDENSED INCOME ACCOUNT

	Year ended June 30 1916	Years ended December 31st								
		1916	1917	1918	1919	1920	1921	1922	1923	1924
Freight revenues.....	\$37,448,021	\$38,727,425	\$40,395,999	\$50,721,288	\$49,236,962	\$55,348,919	\$53,593,929	\$59,931,677	\$67,186,374	\$63,432,140
Passenger revenues.....	29,620,567	31,085,035	34,427,801	39,379,917	44,774,218	52,270,794	50,934,294	49,217,795	51,360,208	49,670,378
Total operating revenues.....	\$76,311,653	\$80,432,167	\$85,784,893	102,294,212	106,545,120	123,512,310	116,405,233	123,246,641	133,940,586	127,213,698
Maintenance of way and structures.....	\$8,779,166	\$8,977,056	\$9,019,344	\$13,525,533	\$14,280,055	\$20,654,480	\$17,355,931	\$16,488,932	\$16,376,045	\$15,919,488
Maintenance of equipment.....	10,859,656	10,693,991	12,191,352	20,913,413	21,377,447	30,438,181	27,424,576	26,404,332	32,217,092	27,539,883
Transportation.....	28,423,557	31,218,961	36,380,373	48,020,080	51,147,509	67,723,025	54,728,204	51,082,709	53,037,109	47,941,947
Total operating expenses.....	\$51,078,358	\$54,372,029	\$61,970,060	87,846,253	92,835,702	120,346,383	106,402,295	99,988,856	107,816,094	97,480,323
Net operating revenue.....	\$25,233,295	\$26,060,138	\$23,814,833	\$14,447,959	\$13,709,418	\$2,834,073	\$10,002,938	\$23,257,785	\$26,124,492	\$29,733,375
Tax accruals.....	\$2,856,254	\$3,005,255	\$3,336,980	\$3,300,630	\$4,073,540	\$4,500,175	\$4,443,275	\$4,586,324	\$4,934,004	\$4,807,973
Operating income.....	\$22,377,041	\$23,054,883	\$20,477,853	\$11,147,329	\$9,635,878	\$1,333,898	\$5,559,663	\$18,671,461	\$21,190,488	\$24,925,402
Rent for equipment—net debit.....	\$2,403,399	\$2,967,368	\$2,184,258	\$590,828	\$72,585	\$1,532,608	\$599,389	\$2,432,555	\$3,710,526	\$1,049,596
Joint facility rents—net debit.....	2,831,145	2,840,968	2,936,125	3,190,160	3,480,351	3,692,593	4,174,519	4,134,187	4,107,304	4,067,551
Net railway operating income.....	\$17,136,736	\$17,240,701	\$15,351,474	\$7,350,350	\$6,055,126	\$12,575,136	\$740,033	\$12,074,160	\$13,277,728	\$19,787,279
Non-operating income.....	\$6,064,923	\$6,793,237	\$6,632,707	\$5,797,204	\$6,776,084	\$6,264,334	\$6,216,875	\$6,324,907	\$7,192,233	\$6,369,249
Gross income.....	\$23,201,659	\$24,033,938	\$21,984,181	\$13,147,554	\$12,831,210	\$18,839,470	\$6,956,908	\$18,399,067	\$20,469,961	\$26,156,528
Rent for leased roads.....	\$6,156,401	\$6,151,343	\$6,156,544	\$6,020,712	\$5,854,717	\$5,852,016	\$5,853,761	\$5,853,452	\$5,846,451	\$5,915,414
Interest on funded and unfunded debt.....	11,307,901	10,894,567	11,922,584	12,770,835	13,280,999	13,525,383	14,890,796	15,797,817	15,989,205	15,755,239
Total deductions from gross income.....	\$18,885,903	\$18,478,961	\$19,580,086	\$20,430,908	\$20,755,218	\$21,109,223	\$22,283,543	\$23,310,003	\$23,387,067	\$23,157,878
Net income.....	\$4,315,756	\$5,554,977	\$2,404,095	\$7,283,354	\$7,924,008	\$7,729,247	\$15,326,635	\$4,910,936	\$7,082,913	\$2,998,650
Assumed by government—(See note).....										
Net corporate income.....	\$4,315,756	\$5,554,977	\$2,404,095	\$8,169,046	\$7,046,948	\$22,798,519	\$1,205,012	\$45,168	\$7,082,913	\$2,998,650
Operating ratio.....	66.93	67.60	72.24	85.88	87.13	102.29	91.41	81.13	80.50	76.63
Revenue ton-miles (thousands).....	2,461,694	2,567,831	2,776,144	3,195,004	3,169,099	2,808,451	2,493,064	2,608,412	3,050,944	.....
Passengers one-mile (thousands).....	1,571,060	1,650,475	1,814,461	1,831,116	2,023,988	2,153,959	1,891,343	1,350,961	1,909,398	.....

†Deficit.

NOTE.—The corporate and federal income accounts are combined for the years 1918 to 1922, inclusive, and in arriving at the net corporate income, allowance is made for the amounts assumed by the government to make up standard return and guaranty standard return was \$17,173,367. Figures for the years 1918 and 1919 include New York Connecting R. R. revenues, expenses and ton mile figures.

will which has been developed in recent years toward this vitally important New England carrier into a measure of practical support which seems calculated not only to afford an early opportunity for improved railway service, but a substantial improvement in railroad credit which will redound to the advantage of all the people and institutions of Massachusetts and New England."

Assisted by Good-Will and New England Loyalty

This statement is a tribute to the value of good-will. It is also more, because it gives something of an indication of the sentiment of New England towards its own. The New Haven is owned in New England. At the end of 1923, of the common stock 50 per cent was held in Massachusetts, Connecticut and Rhode Island, an additional 31 per cent in New York, and but 18 per cent in states not served by the New Haven. There are few roads that have a like combination of good-will, home ownership and something comparable to that factor which some will term New England sectionalism, but which others will prefer to designate as New England pride and loyalty.

New Haven Rehabilitation

The publicity that the New Haven has received during the present week has served to direct attention to the road's recent improvement in operating results, whereby a corporate deficit of \$14,121,623 in 1921 was reduced to \$4,865,768 in 1922, reduced further to \$2,917,103 in 1923, and finally changed into a corporate net of \$2,998,650 in 1924. The New Haven's rehabilitation had started before federal control but results from it were delayed by federal control, by the demoralization of railroad efficiency which existed in 1920, and by the effects of the coal and shopmen's strikes of 1922, all of which seem to have hit the New England roads in a particularly severe manner. The rehabilitation has consisted of improved managerial efficiency and has been assisted by the expenditure of some \$65,000,000 in a ten-year period for capital improvement. Outstanding in the program have been increased facilities whereby all freight and passenger service between New York and New Haven is handled electrically instead of a proportion as formerly; the acquisition of Mikado, Santa Fe and Mountain locomotives, displacing former locomotives of the Mogul or 2-6-0 type; new yards, notably at Cedar Hill (New Haven) and Providence; new bridges in large number, etc. Much money has been spent in improved shop facilities at points all over the system. In the matter of the gasoline rail-car, the New Haven is now a leader. It will, before long, have 26 such cars in service on its lines, or more than any other road. It probably would be correct to say that its conditions necessitate that it should have more such cars than any other carrier.

Much has been said about the New Haven's peculiar characteristics, such as, notably, its high proportion of passenger traffic (about one-half), its high proportion of less than car load freight, its many branch lines, the short haul on its traffic and the terminal character of its business generally. More should be said about the finished character of the company's plant, particularly in the more thickly settled areas which it serves; witness the minimum number of grade crossings, the electrified line between New York and New Haven, the half interest which it owns in the New York Connecting, its entrance into the Grand Central Terminal, New York, etc. Or about the extremely high grade traffic which it originates, about its standing with its public, or also of great importance, about the interesting railroad innovations of one kind and another by means of which it has been keeping in the public eye.

Improvement in Earnings

From the table of earnings which appears with this article it will be noted that the New Haven did not have as large gross income in 1924 as in 1923, and that there

were reductions in both freight and passenger business. Expenses were held in hand sufficiently so that they were the lowest for any year since 1919. The decreases in transportation expenses and in maintenance of equipment expenses are both notable. Of special interest is the sharp reduction in the debit hire of equipment balance from \$3,710,526 in 1923 to but \$1,049,596 in 1924. The net railway operating income of \$19,787,279 for 1924 is the largest figure for this unit shown in the table. It compared with the property's standard return or average annual net operating income for the three years ended June 30, 1917, of \$17,173,367. This means that the New Haven has been restored to its pre-war level of efficiency, but, of course, this is not as significant as might be the case with various other roads. The New Haven was not considered overly efficient in the immediate pre-war period, and, of course, in the time intervening there has been a great increase in the property investment.

NEW YORK, NEW HAVEN & HARTFORD
Comparison of Selected Operating Statistics, 1920 to 1924

Unit	1920	1921	1922	1923	1924 11 mos.
Average mileage operated.....	1,978	1,959	1,976	1,974	1,962
Net ton-miles, millions.....	2,967	2,679	2,738	3,207	2,871
Car-miles per day.....	10.2	12.4	11.9	12.4	15.2
Net tons per loaded car.....	23.8	22.0	20.2	22.5	21.0
Per cent loaded to total car-miles.....	73.6	67.3	72.5	70.5	70.4
Net ton-miles per car day....	179	184	175	197	225
Freight cars per train.....	29.6	35.5	36.5	34.5	38.1
Gross tons per train.....	1,080	1,205	1,245	1,222	1,316
Net tons per train.....	500	510	522	532	549
Train speed, miles per train hour.....	9.2	11.1	9.8	9.6	10.9
Net ton-miles per train hour..	4,602	5,650	5,113	5,081	6,006
Lb. coal per 1,000 gross ton-miles.....	234	200-172*	178	181	147
Locomotive miles per locomotive day.....	45.3	43.9	46.2	49.1	47.0
Per cent freight locos. unserviceable.....	24.6	20.6	23.8	23.3	18.2
Per cent freight cars unserviceable.....	7.5	20.0	22.2	16.7	20.3
Pass. train car-miles, thousands.	84,819	80,445	77,092	79,287	74,202
Lb. coal per pass. train car-mile.	21.3	19.9	20.8	21.2	18.2
Per cent pass. locos. unserviceable.....	26.5	22.0	28.5	24.8	19.7

* Corrected figure.

Improvement in Operating Results

To amplify this table it is worth while to have also a table showing a selection of the New Haven's operating statistics. The figures shown in both of the tables do not include the Central New England, all the stock of which is owned by the New Haven, but figures for which are reported separately. In the table of selected operating statistics the noteworthy feature is the comparative sameness for the years 1920 to 1923, but the marked improvement indicated for 1924. Of particular interest is the increase to 15.2 miles per car day for the first 11 months of 1924; the increase in gross tons per train to 1,316; the increase in train speed to 10.9; the increase, as a result, to 6,006 net ton-miles per train hour, and the decrease of coal to 147 lb. per 1,000 gross ton-miles, indicating marked improvement in fuel economy. The New Haven suffers from its large proportion of unserviceable freight cars which, for one thing, reduce the average miles per car per day, and also mean future expense for repairs to reduce the unusually high percentage for the year of 20.3 when traffic needs make necessary the preparation of these cars for service.

The New Haven's freight operating statistics are affected by the road's large proportion of branch line and passenger service. The figures for 1924 indicate marked improvement over the year immediately preceding, however, and help explain the marked decrease in operating expenses and in the debit per diem balance which was effected. Vice-president Buckland has said that the New Haven is now in the clear, and the figures readily bear out his conclusion to that effect.

Locomotive Feedwater Heating*

Present freight traffic density made possible by modern equipped locomotive—Feedwater heating at terminals

By L. G. Plant

Assistant to President, National Boiler Washing Company, Chicago

RECENT developments in feedwater heating represent the most fundamental improvement to locomotive economy since the advent of superheating. The application to railway motive power of a long established practice for feedwater heating in stationary power plants is only another belated response to the same economic cause that led to the introduction of superheated steam and other revolutionary changes in locomotive practice.

The underlying economic cause for the American revolution in locomotive design may be broadly dis-

of 6.5 trains per day in 1900 to an average of 5.6 trains per day during 1920.

Statistics showing the gross weight of freight trains in relation to the net tonnage handled are not available for the corresponding period, but this factor cannot account for a very large increase in traffic density, since it is subject to the individual loading requirements of shippers. Furthermore, increases in the size and structural weight of freight cars have often lowered the ratio of the net lading actually handled to the gross weight of freight trains.

The increase in freight traffic density since 1900 has therefore been very largely accomplished by increasing the average weight of trains. This has required a corresponding increase in the average output of each motive power unit. It is the urge for more and more individual capacity within the weight and clearance limitations to which each locomotive is subject that has led to the adoption of more efficient equipment.

The value of improvements in motive power design and equipment are often appraised upon the basis of their ability to save fuel but in actual service the greatest advantage is usually derived from their capacity for increasing the output of the locomotive. The effect of

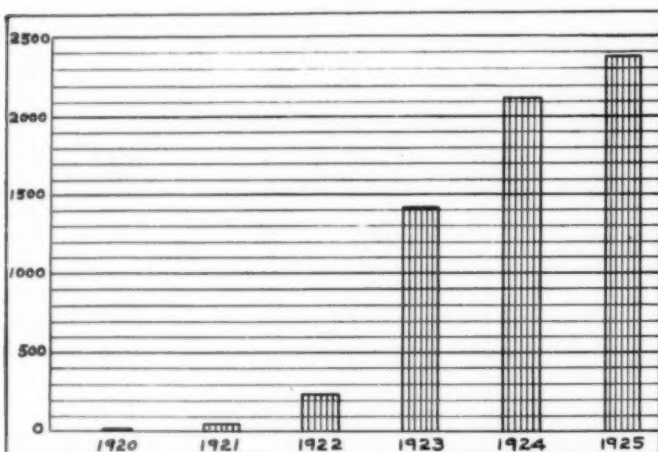
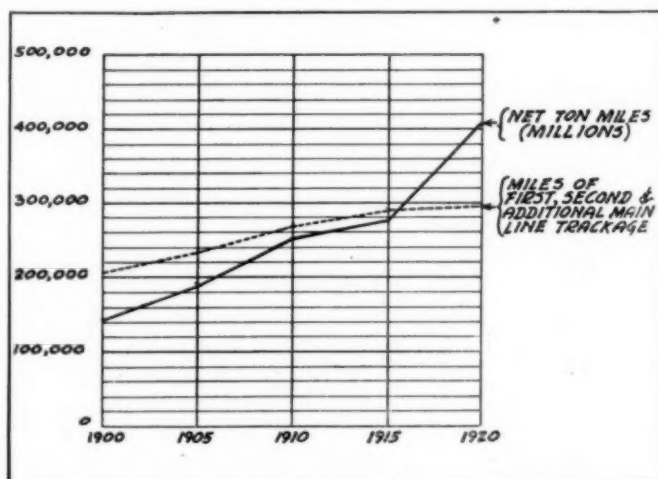


Chart Showing Yearly Growth in the Number of Heaters in Service

nated as the growth in railway traffic. Compared to this factor the effect of basic transportation costs is of secondary importance. Had the freight traffic density per mile of track remained the same in 1920 as in 1900, it would have necessitated the construction and maintenance of more than 300,000 miles of additional main line trackage to have accommodated the growth in freight actually handled by the railways. Conservation of enormous expenditures for the construction and maintenance of additional main line trackage is the modern locomotive's greatest contribution to transportation efficiency. Compare the growth in main line trackage since 1900 with the increase in freight handled over these lines as illustrated in the chart. Every increase in freight handled over a mile of main line track during a given period requires the movement of more trains, or of heavier trains, or of more net tons in relation to the total weight of the trains. All of these factors have contributed to the enormous increase in the tons of freight handled per mile of main line trackage since 1900. But the number of trains that can be moved over a mile of track in a given period is limited, and, as a matter of fact, the number of freight trains operated per mile of main line, second and additional trackage declined from an average



The Growth of Railway Mileage and Traffic

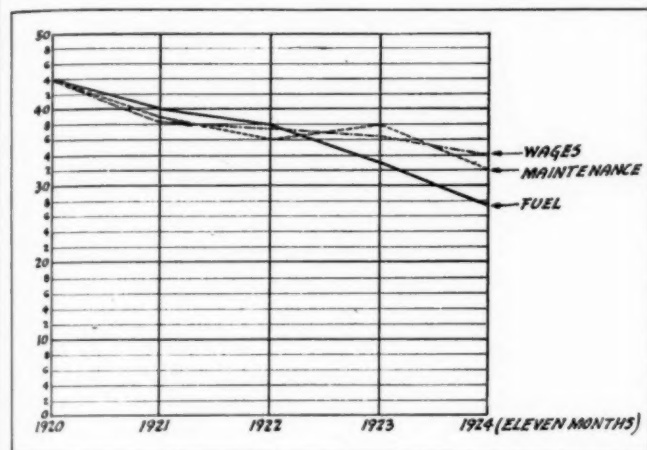
utilizing locomotive efficiency primarily as a means for increasing its capacity has been to lower the cost of fuel, wages and locomotive maintenance per freight ton mile and effect a corresponding reduction in passenger train costs.

The combined effect of operating more powerful and more efficient motive power units is illustrated by the chart showing the trend in unit operating cost. This chart is taken from statistics for Class I railroads compiled by the Interstate Commerce Commission. The item of wages includes both enginemen and trainmen, while maintenance comprises locomotive repairs and engine-house expense. It is particularly significant to note that

*Abstract of an address at the February meeting of the Central Railway Club, Buffalo, N. Y.

excepting the year in which a strike occurred, maintenance costs show a consistent decline. In the light of these figures it is clear that development of the modern locomotive by application of specialties and refinements in design has not increased its maintenance cost in proportion to the work performed but has enabled the railways to make a reduction in the cost of locomotive maintenance per ton mile comparable with the reductions in fuel and wages per ton mile.

Those same economic forces that have promoted the development of modern motive power will continue to compel greater individual capacity with coincident improvements in locomotive efficiency to counteract the



The Trend in Unit Operating Costs

inevitable increases in unit prices for fuel and labor. Agitation for railway electrification is urged principally upon the assumption that it would provide more powerful operating units and apply central power station economies to propelling trains. With the anticipated increase in wage and fuel costs, electrification must be regarded as an impending development unless all of the fundamental principles commonly contributing to stationary power plant economy can be generally applied to locomotive operation. [Mr. Plant here showed slides and described briefly the principal types of feedwater heaters, condensers and the turbine condensing locomotive.—EDITOR.]

Each of the several types of feedwater heaters that have been described afford so practical a means for applying to locomotive operation a practice that has long been regarded essential in every efficient stationary power plant that it is difficult to understand why the application of this equipment has been so retarded. Aside from the inertia that accompanies every departure from accustomed practice, there are certain features in the application, operation and maintenance of live steam injectors that exert a strong hold on locomotive practice, so admirable is this device adapted to its requirements. From the standpoint of reliability in service, simplicity in operation and ease of maintenance, there is no locomotive water feeding device comparable with the live steam injector.

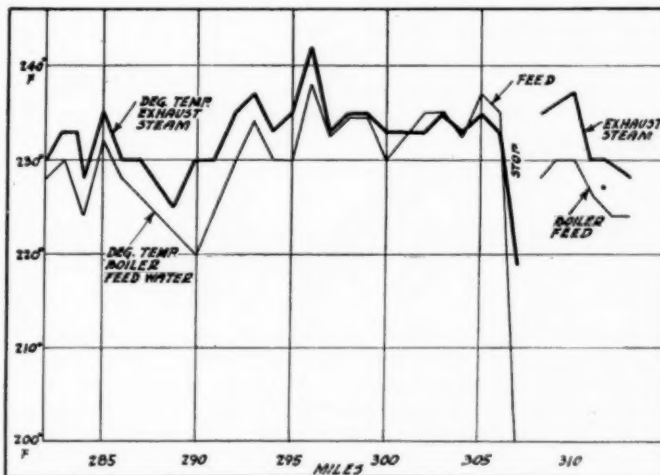
Testing Methods Can Be Improved

Another factor that has retarded the development of locomotive feedwater heating is the lax and indecisive testing methods to which the application of this equipment is frequently subject. The speaker recalls that about ten years ago he had occasion to investigate the performance of a Caille-Potonie feedwater heater that had been tested on a southeastern railroad some years prior. This is a closed type of heater which was developed in France many years ago and is now extensively

used in that country. One of the directors of the American railroad had become interested in the possibilities of such equipment and a heater of this type together with the pump and accessory apparatus had been imported for test on the railroads in this country. The only record of this test disclosed in the files was a report to the superintendent of motive power to the effect that the road foreman had made two round trips on the locomotive and had not noticed any improvement in performance due to the application of the feedwater heater. As a result of this exhaustive test the apparatus was dismounted from the locomotive without further investigation and shipped back to France. "Tests" of this general character have cost American railroads a good many millions of dollars.

It is significant that railroads on which the most exhaustive tests of locomotive feedwater heaters have been made are now becoming the most extensive and consistent users of this equipment. There is no lack of authentic data on the performance of locomotive feedwater heaters available to any railroad that is not in a position to make exhaustive tests of this device. In fact, the technical aspects of locomotive feedwater heating are no longer problematical. Tests to determine the practicability and value of this practice are as out of date as similar tests of the superheater. On matters other than maintenance, the relative efficiency of types and improvements to existing equipment, etc., sufficient data is already available and the question of applying feedwater heaters is entirely an economic problem.

Where tests are made, it is particularly important in the case of the locomotive feedwater heater to concentrate attention upon those factors that are strictly relative to the actual value or relative merits of this equipment. Otherwise, the real issues involved may be obscured by a mass of irrelevant data and over-all generalities. The first consideration is that of temperatures attained by



Temperature Record with Elesco Feedwater Heater on Canadian National 2-8-2 Type Locomotive

water in relation to the temperature of exhaust steam available for heating. Next comes the cost of maintaining this equipment with particular reference to the facilities available for this purpose.

The most important operating characteristic of a locomotive feedwater heater is the temperature at which it can deliver feedwater to the boiler. The economy from feedwater heating increases with each degree rise in temperature of the water delivered to the boiler. Under the conditions usually assumed for locomotive operation, every $12\frac{1}{2}$ -degree increase in feedwater temperature

are placed in the house and the fires are not lighted until the locomotive is placed in a firing-up shed adjacent to the enginehouse.

The enginehouse pipe connections required for this method are illustrated. These provide a live steam drop in connection with the hot filling water main and a blow-off connection. In filling a locomotive both the live steam and filling water valves are opened and the boiler filled through the blow-off valve with this mixture of steam and water. As soon as the water shows in the glass it is shut off and the steam allowed to flow into the boiler until the desired pressure is built up. With this arrangement, it is possible to hold locomotives under a working steam pressure. If the fire is lighted as soon as the water shows in the gage glass, the time required to fill and steam up modern locomotives to a working steam pressure can be reduced to approximately half an hour.

Feedwater Heating No Longer

a Problem of Technique

Locomotive feedwater heating in all its aspects is no longer a problem of technique but of economics. When the requirements are really understood it will be found that equipment is available to do almost anything actually desired in this direction. The economies that will result from this practice are based on physical laws that are as old as creation and as fundamental to the locomotive as the generation of steam itself.

The railways in this country now own over 65,000 locomotives. Approximately 44,000 of these locomotives are equipped with superheaters and it is estimated that the railways could profitably extend the use of superheated steam to at least 60,000 locomotives. With the annual retirement of saturated steam locomotives and modernization of old power continued in service, it is expected that this proportion of superheated steam locomotives will be attained. The application of feedwater heating in some form should logically follow the use of superheated steam. On certain classes of old motive power the feedwater heater or exhaust steam injector may precede the superheater owing to the greater facility with which it can be applied. Feedwater heating has a lesser effect upon locomotive operation than superheating, but

these two developments are associated since they effect locomotive performance in a corresponding manner and the field for superheating is so well defined that it affords a good index to the possibilities for locomotive feed water heating.

The application of locomotive feed-water heaters is responding rapidly to a growing appreciation of the essential character of this equipment. There are now more than 2,400 locomotive feedwater heaters in use on American railroads compared with 7 locomotives equipped for feedwater heating in 1920. The eventual extension of this practice to 60,000 locomotives will probably increase the investment in motive power on Class I railroads by 110 to 125 million dollars. It should enlarge the potential operating capacity of these locomotives by at least 10 per cent, which in a general way is equivalent to adding some 6,000 locomotives to the total number available for service. Or, expressed in another way, the application for feedwater heating to approximately 60,000 locomotives will forestall the purchase of at least 6,000 locomotives of the present calibre. At current motive power prices, the estimated investment of 100 to 125 millions in feedwater heating equipment will conserve an expenditure of approximately 400 million dollars. These figures are far from visionary since a normal continuation in the growth of railway traffic will necessitate a corresponding increase in locomotive output.

The largest factor for increasing locomotive output, however, may be anticipated in the form of facilities for increasing the percentage of time that locomotives are available for active service. This will come in the form of better equipment for maintaining motive power and turning it rapidly at terminals. Not to exceed 9,000 locomotives are now being operated through terminals having modern equipment for filling boilers with hot feed water heated by blown-off steam. The installation of this type of feedwater heating equipment at all large locomotive terminals would add the equivalent of approximately 1,700 locomotives to the power available for service.

This enlargement in motive power capacity will be accompanied by a reduction in fuel consumption of corresponding proportions so that the outlook for locomotive feed water heating is truly a great prospect.

Senate Votes to Abolish Surcharge

WASHINGTON, D. C.

THE Senate on February 13 voted for the second time to abolish the Pullman surcharge, which the Interstate Commerce Commission earlier in the week had held to be reasonable, by adopting the Robinson bill to prohibit a surcharge, which the Senate had passed by itself on May 22 last year, as an amendment to the independent offices appropriation bill, including the annual appropriation for the Interstate Commerce Commission. This was done in an effort to get the matter before the House in the form of a conference report, as the House had already passed the appropriation bill but had not been given an opportunity to vote directly on the surcharge bill because the committee on interstate and foreign commerce, to which it was referred last year, had awaited the decision of the commission before taking it up. On the same day, however, the House committee decided to consider the surcharge bill at a meeting on February 17. The commission's decision, accompanied as it was by four dissents, a concurring opinion by two commissioners expressing the opinion that the surcharge might well be reduced by one-half, and another concurring

opinion objecting to the form of the surcharge but favoring a corresponding addition to the railroad fare for Pullman passengers, aroused a bitter protest among the advocates of the abolition of the surcharge in the Senate, and the divided opinion caused considerable confusion in the minds of those called upon to vote.

The Robinson bill as passed would not prohibit the surcharge but apparently would also make unlawful the excess fares which for many years have been charged on some of the faster and more luxuriously equipped trains. It provides that "It shall be unlawful for any such carrier to demand, charge or collect from any person for transportation, subject to the provisions of this act, in any parlor car or sleeping car, any fare in addition to that demanded, charged or collected for transportation in a day coach, but this shall not prevent just and reasonable charges for the use of accommodations in parlor cars or sleeping cars by companies owning such cars."

Incidentally only a careful use of parliamentary tactics prevented a direct show-down as to the senators who would prefer a reduction in the traveling expense of Pull-

man passengers to a \$40,000,000 reduction in freight rates on agricultural products, which might have suggested a comparison of the number who were personally more interested in Pullman rates, or were influenced by the organizations of commercial travelers, with the number who were more interested in relieving the farmer. By a *viva voce* vote the Senate sustained a point of order, on the ground of irrelevancy, against an amendment proposed by Senator Howell of Nebraska directing the Interstate Commerce Commission "to put into effect immediately a reduction in agricultural freight rates of not less than the amount of such reduction in Pullman and parlor car rates." Senator Robinson, however, had carefully protected his amendment against a point of order by serving notice in advance of his intention to move a suspension of the rules in order that it might be considered and then he had obtained unanimous consent for a vote on it. The vote on the surcharge was 56 to 8, with 32 not voting. The bill had been passed on May 22 without debate at an evening session called to consider unobjected bills without any quorum call.

Senator Howell's amendment itself did not give the senators a chance to choose between a reduction in farm rates and abolition of the surcharge. His reduction was to be superimposed upon the other reduction. He had proposed it saying that "if we cannot reduce freight rates on agricultural products to the extent of \$40,000,000 a year, certainly we cannot and ought not to reduce passenger rates \$40,000,000 a year, even in the form of a cancellation of this surcharge," and that if Congress was to engage in rate-making for the benefit of travellers it could do the same thing for the farmers. He had first put his amendment in the form of a direction to the commission to make a horizontal reduction of 5 per cent on agricultural products, but changed it to make the amount correspond with the amount of the surcharge. Efforts were then made to induce Senator Howell to propose his amendment separately, without reference to the surcharge amendment, and when he declined to do so Senator Robinson asked the Senators who favored his amendment to vote against the Howell amendment, unless the latter were declared out of order.

Speeches of protest were made in the Senate on February 10 by Chairman Smith of the Senate committee on interstate commerce and Senator Robinson, of Arkansas, who had introduced the bill to abolish the surcharge that was passed last year. Senator Smith declared that the Senate "ought to set aside this recommendation of this body to which we have delegated certain powers" and attach this legislation to one of the bills that are now pending so that it might go to conference. He kept referring to the tentative report of the commission's examiner, who last year had recommended that the commission order the surcharge discontinued, as that of "a sub-commission appointed by the Interstate Commerce Commission charged with the duty of ascertaining the facts and reporting to the full commission," and he expressed surprise that the commission had disregarded the finding of its "experts." He also put in the Congressional Record a statement compiled by the commission estimating the net return of certain roads on their tentative valuations or on their book values as of 1923 and said that most of the surcharge was collected by roads that had excess earnings. Senator Robinson also criticized the commission and said that if the House had been given an opportunity to vote on his bill it would pass without substantial opposition.

Senator Smith returned to the attack next day when the independent offices appropriation bill came up for consideration. He said he had been led to believe that the commission was going to remove the surcharge on

its own motion without legislation, and he took the position that a majority of commissioners were actually against the surcharge because, in addition to the four commissioners who had dissented from the finding that it was reasonable, Campbell, Cox, McChord and McManamy, Commissioners Aitchison and Esch had said that they would have been willing to reduce the surcharge by one-half. "When, in the name of Heaven," he asked, "are we going to stop giving certain commissions the power to fleece the people at their will and send in reports that are entirely misleading?"

Senator Robinson then gave written notice of his intention to move to suspend the rules for the purpose of proposing his bill as an amendment to the independent offices bill. Senator Watson said he was in favor of the bill but raised the question whether it could be attached to an appropriation bill without being subject to a point of order against it and Senator Robinson took that course in order to prevent the point being raised.

When the amendment came up on February 13 Senator Howell's voice was the only one raised against it. He said that while he would like to see the surcharge eliminated he could not vote for such a measure "in view of the fact that no relief has been given to agriculture in the West in the matter of railroad rates." "The class that is paying these surcharges is able to pay them," he said. "The farmer in the western country is being charged rates from 50 to 80 per cent higher than they formerly were and there seems to be no intention on the part of Congress to give agriculture any relief." Senator Smith replied that the readjustment of these rates is proceeding and called attention to the fact that Congress has just passed "a joint resolution having the effect of law, which instructs and directs the Interstate Commerce Commission to proceed at once to the readjustment of these freight rates looking toward giving priority to all agricultural products and their reduction to the lowest possible lawful rate." Senator Smith took the position that the removal of the surcharge would not effect the possibility of reducing other rates because he said \$20,000,000 of the surcharge goes to roads that are earning more than 6 per cent and therefore most of the reduction would be at the expense of the excess earnings, which he said already amount to \$160,000,000.

Senator Howell replied that the railroads as a whole have not earned any such excess or even as much as 5½ per cent, that the estimates which Senator Smith referred to covered only 66 individual roads, and that if \$40,000,000 is subtracted from the earnings of the roads as a whole the ability of the commission to reduce freight rates is reduced by that amount. "Why should we direct the Interstate Commerce Commission in a nebulous sort of way to proceed, not knowing what they will do," he asked "but when the same body refuses to act in connection with this surcharge, then we here in Congress act in their place? Why should we not do the same thing for agriculture?" He said it was his view that Congress ought not to try to make rates, that the commission had been created for that purpose, but that if Congress can legislate for those who ride in Pullman cars it can do the same thing for the farmer.

Senator Norris of Nebraska also asked why, if there are surplus earnings, the rate of the Pullman passenger is picked out for reduction instead of that of the fellow who cannot ride in a Pullman car, and when Senator Smith repeated his statement that the surcharge accrues only to the roads earning over 6 per cent Senator Howell named a number of roads which are not in that class, yet derive revenue from the surcharge. Senators Smith and Robinson, by confusing the revenue from the surcharge with the amounts which many roads receive from or pay to the

Pullman Company under their Pullman contracts, insisted that many roads do not receive any surcharge but pay it over to the Pullman Company, which led Senator Caraway to call such payments a rebate to the Pullman Company.

Senator Reed of Missouri tried to suggest a compromise by insisting that farmers and members of their families ride in Pullman cars just as other people do and have to pay "excessive rates," and he urged Senator Howell to withdraw his amendment and allow a vote on the Robinson amendment and then take a separate vote on the freight rate reduction.

Senator Bruce of Maryland, said he agreed with Senator Watson, that the surcharge is "an anomaly in the rate structure" but he would like to know how the amount would be made up to the railroad companies. He finally comforted himself with the suggestion that he supposed they would revise their contracts with the Pullman Company. No one rose to inform him that the surcharge amounts to half of the total Pullman revenues.

Those who voted against the Robinson amendment were Senators Brookhart, Dale, Fess, Howell, Jones of Washington, Metcalf, Oddie and Pepper.

The commission's decision was also criticised in the House on February 12 by Representative McLaughlin of Nebraska, who has been trying to get 150 signatures to a petition to discharge the committee on interstate and foreign commerce from consideration of the bill to abolish the surcharge in order to get it before the House for a vote. He said that he had already obtained 41 signatures, after over two weeks of effort. Mr. McLaughlin also gave the impression that the examiner's report, which the commission had not adopted, was that of a "sub-committee" of the commission, which sub-committee, he said, had "unanimously" recommended that the surcharge be discontinued. He said that the chairman of the committee on interstate and foreign commerce early in this session had told him that "there was no chance of a hearing at this session of Congress and that the committee had definitely decided that no railroad legislation would be taken up by the committee during the short session." This was disputed by Chairman Winslow, who said he had merely told Mr. McLaughlin that in his judgment the committee would not take that bill up. He added that outside of Mr. McLaughlin not over two communications had come to the office of the committee in regard to taking up the Pullman surcharge until the petition was started. "We have been awaiting the report of the Interstate Commerce Commission," he said, "and I think you will all say that it would not have been good judgment for the committee having in charge that sort of legislation to anticipate or prejudge the findings of the commission whose official and expert business it is to investigate and who have been carrying on an investigation. It seems to me that the most absurd thing which could be done would be for Congress, however meritorious the members may individually feel the question is, to undertake to bring up under a rule such as we have a subject which after weeks and months of consideration has divided the Interstate Commerce Commission of 11 men into three or four different parts in respect of conclusions."

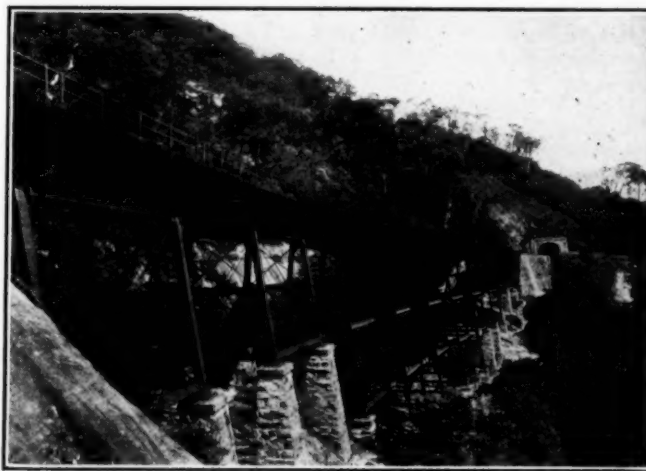
Conferees on the appropriation bill were appointed in the Senate and in the House on February 16.

At its meeting on February 17 the House committee on interstate and foreign commerce decided to hold three days of hearings on the surcharge bill beginning on Wednesday, February 18.

D. K. Clink, of the International Federation of Commercial Travelers' Organizations, and A. M. Loeb, representing the National Council of Traveling Salesmen's Associations, testified before the committee on February 18,

endeavoring to restate as much as possible in the time permitted of the evidence and opinions they had presented before the Interstate Commerce Commission. They were frequently interrupted, however, by members of the committee who took the position that Congress could hardly be expected to review an entire record such as is made before the commission and who kept asking on what grounds Congress should attempt to engage in rate-making as to one rate while leaving other rates to the jurisdiction of the commission. Mr. Clink and Mr. Loeb insisted that in this case they were asking Congress to determine a "policy" and while they agreed that rate-making is more properly a function of the commission than of Congress they declared that in this case the commission was so patently wrong and that the surcharge was so inherently unfair or "dishonest" that Congress ought to adopt the dissenting opinion of Commissioner Campbell rather than that of a majority of the commission, although they also insisted that because two commissioners said they were in favor of a 50 per cent reduction of the surcharge a majority were really against it as it stands. Chairman Winslow pointed out, however, that the bill does not provide for a 50 per cent reduction but a complete abolition of the surcharge and that seven members of the commission had voted against that. Representatives Rayburn, Hoch, Burtress, Hawes, Newton, Lea, Cooper and Winslow asked questions as to why Congress would be justified in rate-making in this instance while leaving other rates to the jurisdiction of the commission. Representative Barkley asked if it were not true that the railroads had earned some \$200,000,000 of excess earnings and that the revenue which would be lost by abolition of the surcharge would not largely be at the expense of excess earnings. Mr. Loeb said he did not know about the amount but that the bulk of the surcharge goes to roads having excess earnings. Both witnesses insisted that it had not been shown that the railroads need the money and that the surcharge does not represent any service not covered by the ordinary railroad fare and the Pullman fare. Mr. Clink said that if there were any additional cost to the railroads it should have been covered in the railroad contracts with the Pullman Company while Mr. Loeb said it had been shown that the railroads actually carry Pullman passengers at less cost than coach passengers, because of the greater density of traffic on the lines on which Pullman service is ordinarily afforded.

Representatives of the railroads were to be heard in opposition to the bill on Thursday, February 19.



A Viaduct on the São Paulo Railway, Brazil

Gas-Electric Cars for the Northern Pacific

TWO gas-electric cars recently ordered by the Northern Pacific from the Electro-Motive Company, Cleveland, Ohio, were delivered under their own power at the Northern Pacific coach yards, St. Paul, Minn., Sunday evening, February 3. The trip from the builder's plant at St. Louis, Mo., was made practically without interruption as far as the performance of the cars was concerned. Owing to various delays on account of train movements, it was necessary to make up time, and for most of the distance the two-car train was

their own power, over the tracks of the Chicago, Burlington & Quincy to St. Paul, Minn., laying over Saturday night at Galesburg, Ill. The total distance traveled was 617 miles, which was covered in an actual running time, including stops on account of train movements, of 16 hr., 20 min. On one division with favorable running conditions, the cars made 150 miles in three hours, including three stops of seven minutes, two minutes and one minute, respectively. They averaged 3.4 miles per gal. of gasoline per car.

One of the interesting developments which may or may not have been foreseen by the builders was brought out during the snowstorm through the discovery that the driver could open his side window and lean out in order to



Gas-Electric Cars for the Northern Pacific Run into a Snow Storm at the La Crosse, Wisc., Station of the C. B. & Q.

operated at or near the track speed limit. No noticeable reduction in speed was apparent when the cars ran into a snowstorm near LaCrosse, Wis. The train was accompanied by various local railroad officers of the divisions over which it passed.

The cars, which were built at the plant of the St. Louis Car Company, are of essentially the same design as those described on page 371 of the August 30, 1924, *Railway Age*, with the exception that 100 sq. ft. of floor space has been provided in the baggage room instead of 72 sq. ft., and the seating capacity with this arrangement is 52 persons.

The two cars left St. Louis, Mo., Saturday noon, February 1, and proceeded, coupled together and under

look ahead without feeling the wind on his face, or being struck by the flying snowflakes. Apparently at moderate and high speeds the head wind strikes the front of these cars in such a way as to deflect wind, rain or snow entirely past the driver's side window.

One of the new Northern Pacific cars will pull a standard baggage, mail and express car weighing 42 tons and make 320 miles a day on a 27-mile an hour schedule with one grade each way about 35 miles in length averaging 0.7 per cent. The other car is going on a main line run of about 200 miles with a 30-mile an hour schedule and will pull a trailing coach if traffic requires. Still another one of these cars recently built is on a 200-mile main line run.



International-Great Northern Chair Car Built by American Car and Foundry Company

General News Department

The Interstate Commerce Commission has issued its usual order directing the railways to file on or before May 1 reports of their value and net railway operating income, for the purpose of showing whether or not they earned in their last fiscal year more than 6 per cent; and, in case they did earn so much, to remit half of the excess to the commission.

The Chicago district freight terminals of the roads controlled by the Nickel Plate are to be consolidated. The terminal of the Chesapeake & Ohio, now at Hammond, Ind., will after March 1 be at Stony Island, Chicago. The new facilities made necessary by the transfer are nearly completed. The Erie terminal, now located at Hammond, will also be changed to Stony Island in June, at which time the New York, Chicago & St. Louis will discontinue the use of its Osborne yard at Hammond, except for eastbound trains.

C. N. R. Net \$3,000,000 Lower in 1924

Net earnings of the Canadian National for the calendar year of 1924 amounted to \$17,244,251, according to an announcement made in Montreal this week by Sir Henry Thornton, president of the company. Final figures of the operating results show that while prevailing business conditions and a smaller crop reduced the gross receipts of the railway by \$16,547,305, as compared with the previous year, economies in operating expenses were made to the extent of \$14,361,907. The final figures for the year 1924 are as follows:

OPERATING REVENUES		
1924	\$235,588,182.55	
1923	253,135,487.61	
Decrease	\$16,547,305.06	
OPERATING EXPENSES		
1924	\$218,343,931.07	
1923	232,704,838.53	
Decrease	\$14,361,907.46	
NET REVENUE		
1924	\$17,244,251.48	
1923	20,430,649.08	
Decrease	\$3,186,397.60	
The results by regions in 1924 were:		
CENTRAL REGION		
Operating revenues	\$114,564,818.39	
Operating expenses	98,131,371.43	
Net	\$16,433,446.96	
WESTERN REGION		
Operating revenues	\$65,938,275.20	
Operating expenses	67,062,628.69	
Deficit	\$1,124,353.49	
ATLANTIC REGION		
Operating revenues	\$20,721,399.54	
Operating expenses	24,266,403.78	
Deficit	\$3,545,004.24	
UNITED STATES LINES		
Operating revenues	\$34,363,689.42	
Operating expenses	28,883,527.17	
Net	\$5,480,162.25	

\$60,000,000 Asked from Parliament for C. N. R.

In the main estimates tabled in the House of Commons at Ottawa this week by James A. Robb, Acting Minister of Finance, there is an item of \$60,000,000 for the Canadian National. That is the amount which the Minister of Railways and Canals, George P. Graham, believes it will be necessary to loan the government system in the fiscal year ending March 31, 1926. When compared with the amount asked for in the fiscal year which will close on March 31 next it shows an increase of \$3,473,000.

An important item under the head of railways and canals, chargeable to income, is the sum of \$50,000 to supplement pension allowances payable under the provisions of the Intercolonial and Prince Edward Island Railway Employees' Provident Fund, so as

to make the minimum payment, during the current fiscal year, the sum of \$30 per month, instead of \$20, as fixed by that act. Next year it is expected that in the place of this item will be a large sum to provide for a pension fund for the entire Canadian National System, that plan now being in process of being worked out by a committee representing the management and the employees.

In the main estimates the amount to be asked for the maintenance of the Dominion Railway Board during the fiscal year ending March 31, 1926, is \$239,359, an increase over the fiscal year ending on March 31 next of \$3,430.

More Roads Given Additional Time for Train Control Installations

The Interstate Commerce Commission has granted the petition of the Richmond, Fredericksburg & Potomac for an extension of time in which to complete its automatic train control installation to July 1, although this was one of the four roads for which the commission had previously denied an extension. The commission has also granted an extension to July 1 on petitions filed since the first of the year by the Pennsylvania; the Pittsburgh, Cincinnati, Chicago & St. Louis; the West Jersey & Seashore and the Atlantic Coast Line.

The Central of New Jersey, which was also one of the four roads denied an extension of time, has filed a new petition asking for a reconsideration and for an extension to September 1.

Des Moines Newspapers in

Unique Railroad Celebration

Representatives of virtually all of the larger railways were entertained by the Des Moines Register and the Des Moines Tribune-News at a unique "Railroad Day" in Des Moines on February 11. The feature of the day was the dinner in the evening where Iowa's most prominent railroad baiters and competitors were burlesqued. A mock "Senator Brookhart," addressing the banqueters, revealed a change of heart towards the railroads and declared that in the future the railroads' interests will be his interests. The "Iowa Bus Queen," in imitation of the young woman who operates a number of bus lines in Iowa, tried to break up the dinner but was finally quieted. During the course of the evening a special railroad edition of the Des Moines Register and the Tribune-News was distributed. This reported the news of the "railroad day," including "Senator Brookhart's" surprising move, and contained numerous stories of the strenuous efforts being made by railroad representatives to establish agencies in Des Moines. The special newspaper also announced that the government would take over the operation of the railroads immediately and that Senator Brookhart had been appointed director-general, with Henry Ford as chairman of the advisory committee. The front page of the special edition also carried a large photograph of a fictitious new two-million dollar union station in Des Moines.

Speaking at the dinner, Harvey Ingham, editor of the Register, stated the purpose of the celebration was the desire of the press to recognize the great service of the railroads to Iowa and to acquaint railroad men with the state's resources. The humorous features of the dinner were the "train announcer" who announced the courses of the dinner with unintelligible shouts, unpronounceable Pullman car names for the tables, and the imitators of Senator Brookhart and the "Bus Queen" of Iowa. A cartoon by telegraph from J. M. Darling, the nationally known Des Moines cartoonist, was read. Mr. Darling said, "I want my friends of the railroads to know that I still believe that taking wheels off the railroad engines to mend the farm wagons will not help agriculture."

The 147 railroad men present were entertained at noon as guests of the Kiwanis Club at whose luncheon J. E. Gorman, president of the Chicago, Rock Island & Pacific, gave the principal address. During the day, escorted tours through Des Moines constituted the chief entertainment.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1924

Name of road	Average mileage operated during period	Operating revenues				Operating expenses				Operating ratio	Net from railway operation	Net after income taxes	Net after rents, 1923
		Freight	Passenger	Total (inc. m.e.c.)	Maintenance of way and structures	Equip. ment	Traffic	Trans- portation	General				
Akron, Canton & Youngstown.....	Dec. 170	\$221,822	\$498	\$222,320	\$22,760	\$31,381	\$11,090	\$82,088	\$11,359	64.40	\$87,028	\$80,969	\$36,385
Alabama & Vicksburg	12 mos. 170	2,693,632	7,709	2,701,341	363,740	291,712	117,582	798,396	124,076	59.90	11,333,372	996,996	507,093
Albany & Vicksburg	12 mos. 141	2,597,674	754,063	3,351,737	622,245	705,062	114,724	1,182,112	165,614	78.10	789,325	477,857	53,578
Albany, Shreveport & Pacific.....	Dec. 188	240,116	83,427	323,543	68,855	39,966	10,052	131,022	14,978	76.10	83,860	55,543	2,976
Ann Arbor	12 mos. 188	2,934,687	1,013,246	3,947,933	81,044	635,230	143,300	1,508,385	183,176	78.10	931,790	651,937	690,842
Ann Arbor	12 mos. 293	4,216,676	3,660,000	7,876,676	282,470	90,331	10,430	2,045,519	16,984	73.30	127,744	98,526	128,970
Atchison, Topeka & Santa Fe.....	12 mos. 293	4,864,463	441,123	5,305,586	669,420	1,031,071	113,095	2,283,078	173,943	77.60	1,241,306	951,309	460,554
Gulf Colorado & Santa Fe.....	Dec. 9,143	11,239,467	3,423,523	14,662,990	1,998,793	3,475,503	381,017	5,430,978	369,431	69.00	5,098,959	3,539,781	3,635,698
Gulf Colorado & Santa Fe.....	12 mos. 9,143	13,428,629	4,262,570	17,691,200	2,869,509	4,397,520	3,800,920	6,067,874	4,220,182	72.70	5,032,366	3,633,520	3,848,289
Gulf Colorado & Santa Fe.....	12 mos. 1,908	2,585,437	3,120,189	5,705,626	221,309	550,375	49,796	943,299	65,955	57.50	1,324,714	1,230,026	1,131,939
Gulf Colorado & Santa Fe.....	12 mos. 1,908	2,453,327	4,071,992	6,525,319	5,431,013	6,274,471	558,064	8,816,099	769,008	72.40	8,302,500	7,245,381	6,241,010
Panhandle & Santa Fe.....	Dec. 858	887,472	149,651	1,037,123	12,337	182,098	9,554	281,117	19,381	41.50	644,508	483,263	433,435
Panhandle & Santa Fe.....	12 mos. 858	9,019,080	1,520,080	10,539,160	1,392,562	2,531,154	97,576	3,135,139	223,046	66.20	3,761,278	3,220,197	2,693,970
Atlanta & West Point.....	Dec. 93	164,508	80,600	245,108	36,661	34,023	9,605	51,844	10,728	51.80	139,315	111,828	98,975
Atlanta & West Point.....	12 mos. 93	1,677,020	874,596	2,551,616	401,611	512,099	107,635	1,030,701	131,265	76.20	697,596	530,697	388,737
Western of Alabama	Dec. 133	217,013	72,235	289,248	45,380	32,994	9,860	115,637	10,176	68.40	102,396	102,065	100,935
Atlanta, Birmingham & Atlantic.....	12 mos. 133	2,032,205	823,397	2,855,602	419,418	581,400	117,065	981,115	130,054	72.20	876,179	725,897	673,735
Atlanta, Birmingham & Atlantic.....	12 mos. 639	3,550,910	533,843	4,084,753	77,876	101,371	24,230	166,384	16,006	88.90	48,437	32,618	11,400
Atlantic Coast Line	Dec. 4,870	5,577,898	1,686,405	7,264,303	89,024	1,427,585	155,041	2,664,267	162,896	66.70	2,668,545	2,026,473	1,874,404
Atlantic Coast Line	12 mos. 4,865	57,288,726	17,755,927	75,044,653	10,660,921	16,833,082	1,531,249	29,063,109	1,837,374	73.80	21,450,795	15,766,566	15,179,185
Charleston & Western Carolina.....	Dec. 342	322,998	32,953	355,951	57,861	40,106	9,244	129,672	6,492	65.60	128,401	91,652	86,328
Baltimore & Ohio	Dec. 342	3,352,126	377,997	3,730,123	692,459	578,244	87,526	1,561,942	82,224	76.80	906,396	676,146	565,597
Baltimore & Ohio	12 mos. 5,303	14,507,076	2,402,758	16,909,834	1,896,504	4,224,471	329,203	7,211,527	504,857	104.90	10,528	26,795	41,650
Baltimore & Ohio	12 mos. 5,303	180,179,357	29,047,718	209,227,075	26,638,363	48,659,504	4,244,471	85,133,755	6,169,512	77.60	3,892,876	3,369,991	2,929,469
Baltimore & Ohio	12 mos. 80	.....	.....	.....	5,560	33,127	3,323	17,719	10,780	77.00	51,566,162	41,915,003	38,084,324
Baltimore & Ohio	12 mos. 80	.....	.....	.....	552,886	576,769	22,900	2,076,726	146,296	80.90	51,342	11,070	92,642
Staten Island Rapid Transit.....	Dec. 23	96,803	98,964	195,767	46,797	27,017	2,040	135,311	14,720	104.90	10,528	26,795	41,650
Bangor & Aroostook	Dec. 23	1,117,353	1,322,190	2,439,543	639,990	382,579	25,194	1,476,871	179,628	98.50	41,748	149,595	311,600
Bangor & Aroostook	12 mos. 615	486,845	81,895	568,740	84,592	147,496	3,455	180,778	25,317	73.10	162,800	119,016	140,268
Belt Ry. Co. of Chicago.....	Dec. 32	.....	.....	.....	1,217,016	1,586,408	50,125	1,980,447	24,982	73.60	1,825,075	1,305,130	1,739,157
Belt Ry. Co. of Chicago.....	12 mos. 32	.....	.....	.....	558,475	36,157	72,584	284,996	9,828	72.90	131,422	106,141	130,343
Belt Ry. Co. of Chicago.....	12 mos. 228	730,191	20,011	750,202	55,747	368,262	18,485	276,056	51,899	66.80	2,269,505	1,732,557	1,741,046
Belt Ry. Co. of Chicago.....	12 mos. 228	13,953,299	284,507	14,237,806	1,532,621	5,248,897	1,840,064	4,104,930	380,110	78.30	3,149,875	2,269,962	2,800,953
Bingham & Garfield	Dec. 32	43,551	496,212	539,763	14,866	8,294	1,113	12,361	4,861	93.00	3,133	8,786	6,065
Bingham & Garfield	12 mos. 34	478,505	496,212	974,717	123,327	80,546	1,717	2,403,526	57,014	83.70	80,847	37,339	134,276
Boston & Maine.....	Dec. 2,287	4,435,469	1,723,331	6,158,800	83,477	1,479,496	59,556	2,740,413	241,847	76.90	1,620,620	1,356,847	1,125,489
Brooklyn Eastern Dist. Term.....	Dec. 9	95,761	.....	95,761	10,076,152	16,289,565	694,260	33,828,789	2,751,995	81.20	14,784,741	11,731,991	8,972,022
Buffalo & Susquehanna R. R. Corp., Dec.	253	184,964	5,483	190,447	26,637	59,159	1,948	58,294	11,458	79.50	52,772	26,411	60,001
Buffalo & Susquehanna R. R. Corp., Dec.	253	1,811,901	57,748	1,869,649	401,792	798,134	23,184	604,129	113,202	101.40	26,613	98,495	238,673
Buffalo, Rochester & Pittsburgh.....	Dec. 591	1,079,317	139,810	1,219,127	133,320	267,883	29,729	496,729	40,681	75.70	310,797	272,746	328,855
Buffalo, Rochester & Pittsburgh.....	12 mos. 591	13,575,578	1,628,372	15,203,950	1,713,951	4,683,447	307,580	6,240,218	490,164	84.30	2,500,731	2,092,799	2,641,407
Canadian Pacific Lines in Maine.....	Dec. 233	261,042	39,911	300,953	23,816	52,531	6,335	117,860	3,605	70.50	93,849	81,466	61,364
Central of New Jersey	12 mos. 233	2,023,558	404,024	2,427,582	652,345	518,128	59,159	1,177,712	42,445	93.90	159,148	25,765	120,899
Central of New Jersey	12 mos. 692	3,272,928	720,472	3,993,400	436,963	542,250	34,246	1,804,738	109,663	69.30	1,321,938	985,582	903,732
Central of New Jersey	12 mos. 692	42,413,580	9,669,917	52,083,497	6,058,276	9,819,916	449,521	21,798,966	1,293,761	71.50	15,814,366	11,253,888	10,273,251
Central Vermont	Dec. 434	390,604	87,078	477,682	118,836	108,856	14,123	338,881	25,012	104.80	27,808	18,984	30,099
Central Vermont	12 mos. 434	6,272,346	1,241,839	7,514,185	1,595,225	1,381,827	166,632	3,863,359	282,029	77.90	1,082,625	851,968	471,088
Chesapeake & Ohio	Dec. 2,555	7,726,904	901,955	8,628,859	1,393,422	2,355,807	97,881	3,129,074	220,929	77.90	2,005,690	1,554,147	1,338,630
Chesapeake & Ohio	12 mos. 2,555	92,234,411	10,851,180	103,085,591	15,551,539	30,116,566	1,173,219	33,127,514	2,521,742	76.60	25,251,744	20,463,076	21,892,920
Chicago & Alton	Dec. 1,055	1,767,174	318,732	2,085,906	251,636	301,229	60,226	1,021,352	55,414	73.00	678,922	506,385	374,268
Chicago & Alton	12 mos. 1,050	21,675,681	6,341,465	28,017,146	4,169,311	7,011,157	777,107	11,325,216	708,685	77.40	6,960,561	5,712,654	4,394,793
Chicago & Eastern Illinois.....	Dec. 945	1,823,302	409,659	2,232,961	171,681	685,665	61,708	963,748	71,215	81.20	486,700	319,727	254,311
Chicago & Eastern Illinois.....	12 mos. 945	19,381,436	4,672,601	24,054,037	2,604,958	7,827,155	633,422	10,408,218	812,817	76.30	3,615,532	2,185,917	1,467,259
Chicago & North Western	Dec. 8,462	7,215,614	2,353,121	9,568,735	1,243,145	2,208,068	195,653	4,891,343	303,062	86.10	1,318,221	1,255,406	1,798,362
Chicago & North Western	12 mos. 8,462	103,516,754	28,872,655	132,389,409	22,559,053	30,581,466	2,045,151	60,501,486	4,142,008	80.70	28,917,939	19,505,576	16,784,051
Chicago, Burlington & Quincy.....	Dec. 9,396	9,524,377	2,230,060	11,754,437	1,448,421	3,218,131	235,132	5,099,728	377,566	73.80	3,576,898	2,535,066	2,291,318
Chicago, Burlington & Quincy.....	12 mos. 9,407	119,773,873	26,522,642	146,296,515	19,413,916	34,786,178	2,877,617	57,800,268	4,592,720	73.70	42,716,144	31,998,094	28,742,112
Chicago, Great Western.....	Dec. 1,496	1,514,978	338,612	1,853,590	212,244	316,218	69,944	916,358	59,272	77.40	463,349	354,419	253,567
Chicago, Great Western.....	12 mos. 1,496	18,764,368	3,909,610	22,673,978	3,682,233	4,726,280	806,996	10,228,278	651,407	81.80	4,488,267	3,538,480	2,234,046

REVENUES AND EXPENSES OF RAILWAYS

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1924—CONTINUED

Name of road	Average mileage operated during period	Operating revenues			Operating expenses			Operating ratio	Net from railway operation	Net after operating income (or loss)	Net after rents, 1923.
		Freight	Passenger	Total	Maintenance of way and structures	Equip- ment	Traffic				
Chicago, Indianapolis & Louisville, Dec. 12 mos.	657	\$1,025,165	\$236,809	\$1,261,974	\$139,465	\$304,712	\$35,965	75.80	\$139,378	\$260,738	\$185,817
Chicago, Indianapolis & Louisville, 12 mos.	654	1,238,165	3,014,956	4,253,121	1,769,709	3,603,969	403,381	73.20	4,575,259	3,636,920	2,353,034
Chicago, Milwaukee & St. Paul, Dec. 10 mos.	1,090	9,624,370	1,833,166	11,457,536	1,151,650	2,539,889	193,577	74.60	3,295,732	2,582,044	2,445,345
Chicago, Milwaukee & St. Paul, 12 mos.	1,086	12,070,603	2,176,817	14,247,420	2,449,379	3,410,037	242,588	79.30	32,816,398	23,674,507	20,167,713
Chicago, Peoria & St. Louis, Dec. 12 mos.	247	88,755	10,927	99,682	20,853	71,680	1,200	97.20	3,040	1,850	8,796
Chicago, Peoria & St. Louis, 12 mos.	247	1,036,629	142,273	1,178,902	240,375	219,946	19,797	95.50	58,738	10,771	18,879
Chicago River & Indiana, Dec. 12 mos.	19	.....	.....	.....	608,767	79,411	1,100	65.90	247,492	166,288	305,413
Chicago River & Indiana, 12 mos.	19	.....	.....	.....	6,951,860	813,289	10,535	66.20	2,345,105	1,895,279	3,359,727
Chicago, Rock Island & Pacific, Dec. 12 mos.	7,578	7,279,826	2,159,841	9,439,667	978,761	2,013,211	183,836	72.90	2,816,168	3,227,954	1,975,793
Chicago, Rock Island & Pacific, 12 mos.	7,611	8,921,497	2,405,090	11,326,587	1,420,043	2,712,483	245,937	77.80	27,622,601	21,493,379	14,121,464
Chicago, Rock Island & Gulf, Dec. 12 mos.	461	500,809	83,204	584,013	632,944	48,313	14,636	59.10	258,889	24,977	77,477
Chicago, Rock Island & Gulf, 12 mos.	461	5,264,234	920,956	6,185,190	882,555	811,597	172,363	69.40	2,031,364	1,890,777	1,522,199
Chic., St. Paul, Minn. & Omaha, Dec. 12 mos.	1,749	1,529,610	490,170	2,019,780	158,564	402,903	28,249	79.50	461,393	342,856	297,394
Chic., St. Paul, Minn. & Omaha, 12 mos.	1,749	20,019,002	5,709,095	25,728,097	3,717,698	7,642,221	392,244	79.50	5,725,912	4,096,901	3,408,989
Cincinnati, Indianapolis & Western, Dec. 12 mos.	347	343,361	385,052	728,413	408,374	1,098,662	15,774	77.40	92,276	69,213	59,928
Cincinnati, Indianapolis & Western, 12 mos.	347	3,483,261	3,850,522	7,333,783	602,418	958,662	169,295	83.60	740,530	511,800	308,809
Colorado & Southern, Dec. 12 mos.	1,057	858,149	139,820	997,969	114,417	239,187	43,051	76.30	261,698	1,939,377	1,759,280
Colorado & Southern, 12 mos.	1,091	9,831,852	1,870,378	11,702,230	1,639,300	2,864,125	512,627	78.90	2,706,860	1,939,377	1,759,280
Ft. Worth & Denver City, Dec. 12 mos.	435	847,536	251,354	1,098,890	63,338	172,883	17,583	60.20	4,431,437	3,729,616	3,724,150
Ft. Worth & Denver City, 12 mos.	456	8,280,360	2,231,245	10,511,605	948,856	2,031,895	175,583	42.50	128,658	99,522	398,106
Wichita Valley, Dec. 12 mos.	271	180,673	30,407	211,080	27,221	85,538	.....	48.70	97,626	87,694	59,635
Wichita Valley, 12 mos.	271	1,482,631	314,218	1,796,849	255,899	119,638	278	101.70	97,626	87,694	59,635
Columbus & Greenville, Dec. 12 mos.	167	92,753	40,327	133,080	28,704	16,898	2,917	88.30	191,570	174,937	30,052
Columbus & Greenville, 12 mos.	167	1,206,172	342,324	1,548,496	458,724	216,898	32,520	85.00	571,746	336,404	385,517
Delaware & Hudson, Dec. 12 mos.	894	3,314,322	238,386	3,552,708	383,601	474,553	117,516	85.00	8,352,013	6,955,909	7,431,886
Delaware & Hudson, 12 mos.	894	38,590,733	3,805,756	42,396,489	5,303,279	12,166,232	573,518	85.00	1,768,571	1,095,550	1,081,260
Delaware, Lackawanna & Western, Dec. 12 mos.	902	5,385,033	1,107,432	6,492,465	651,666	1,627,576	121,952	75.90	22,153,467	15,280,374	15,870,712
Delaware, Lackawanna & Western, 12 mos.	902	63,468,385	13,604,896	77,073,281	7,757,758	18,716,571	1,407,569	74.40	22,153,467	15,280,374	15,870,712
Denver & Rio Grande Western, Dec. 12 mos.	2,566	2,159,789	332,404	2,492,193	290,017	1,087,127	51,905	107.20	197,390	422,285	415,712
Denver & Rio Grande Western, 12 mos.	2,600	25,107,743	5,315,129	30,422,872	6,128,433	9,151,008	615,703	86.60	4,420,141	2,431,929	2,875,083
Denver & Salt Lake, Dec. 12 mos.	255	258,386	26,114	284,500	54,996	197,335	1,030	116.10	50,128	45,301	51,154
Denver & Salt Lake, 12 mos.	255	2,730,494	324,789	3,055,283	895,059	1,221,298	151,139	96.50	118,217	14,030	47,056
Detroit & Mackinac, Dec. 12 mos.	375	69,824	26,610	96,434	17,422	32,383	1,999	103.00	3,262	3,262	4,696
Detroit & Mackinac, 12 mos.	376	1,447,935	303,046	1,750,981	351,414	448,979	24,349	83.20	323,914	196,567	274,773
Detroit & Toledo Shore Line, Dec. 12 mos.	61	318,399	.....	318,399	14,570	48,436	3,274	56.10	1,512,297	1,234,449	603,781
Detroit Terminal, Dec. 12 mos.	26	.....	.....	.....	3,402,138	363,742	34,369	99.00	1,370	6,586	9,181
Detroit Terminal, 12 mos.	26	.....	.....	.....	137,585	19,850	.....	74.10	597,507	366,867	496,430
Detroit, Toledo & Ironton, Dec. 12 mos.	469	898,020	8,435	906,455	319,425	145,295	7,568	78.80	105,632	136,264	8,367
Detroit, Toledo & Ironton, 12 mos.	468	11,673,038	98,860	11,771,898	1,848,364	1,982,135	86,166	63.50	4,733,140	3,930,159	2,414,859
Duluth & Iron Range, Dec. 12 mos.	276	62,522	10,858	73,380	68,484	121,379	1,194	349.30	248,480	256,502	252,265
Duluth & Iron Range, 12 mos.	278	5,285,904	136,706	5,422,610	1,155,392	1,457,431	13,933	81.80	1,082,063	269,274	272,874
Duluth, Missabe & Northern, Dec. 12 mos.	305	76,843	10,324	87,167	129,930	180,261	3,267	525.20	431,961	457,943	456,227
Duluth, Missabe & Northern, 12 mos.	305	12,767,320	13,856,099	26,623,419	1,985,553	2,211,799	37,714	54.00	6,372,786	3,878,087	3,822,157
Duluth, Winnipeg & Pacific, Dec. 12 mos.	178	151,101	14,379	165,480	41,204	51,334	4,585	101.60	2,792	10,150	3,763
Duluth, Winnipeg & Pacific, 12 mos.	178	1,865,199	211,553	2,076,752	446,719	436,977	42,588	89.00	237,966	130,806	206,373
Elgin, Joliet & Eastern, Dec. 12 mos.	459	1,791,045	.....	1,791,045	164,718	377,589	12,294	69.70	594,978	497,687	295,574
Erie Railroad, Dec. 12 mos.	2,039	6,125,209	1,096,069	7,221,278	2,152,787	4,734,733	146,929	70.90	6,262,486	5,210,345	5,409,365
Erie Railroad, 12 mos.	2,039	83,388,937	13,386,636	96,775,573	649,156	1,045,259	145,107	83.40	1,326,697	1,088,224	1,241,479
Chicago & Erie, Dec. 12 mos.	269	12,146,176	771,315	12,917,491	1,498,050	1,787,451	273,549	82.80	18,086,916	14,049,024	15,911,635
Chicago & Erie, 12 mos.	269	12,146,176	771,315	12,917,491	1,498,050	1,787,451	273,549	62.80	5,225,864	4,649,525	1,160,544
New Jersey & New York, Dec. 12 mos.	45	19,366	105,269	124,635	9,921	19,539	1,312	76.20	31,265	30,806	5,139
New Jersey & New York, 12 mos.	45	275,967	1,248,884	1,524,851	225,584	238,571	15,449	81.90	286,712	246,315	106,071
N. Y., Susquehanna & Western, Dec. 12 mos.	135	270,269	57,354	327,623	45,253	68,038	3,604	87.70	45,293	30,870	22,512
N. Y., Susquehanna & Western, 12 mos.	135	3,527,868	708,841	4,236,709	728,363	989,565	44,176	90.30	463,454	138,493	12,573
Evansville, Ind. & Terre Haute, Dec. 12 mos.	146	196,469	5,217	201,686	36,817	34,707	1,632	66.80	69,791	66,119	30,662
Evansville, Ind. & Terre Haute, 12 mos.	146	1,770,599	66,792	1,837,391	423,517	233,005	22,125	77.40	490,778	437,069	172,297
Florida East Coast, Dec. 12 mos.	763	1,113,824	574,890	1,688,714	362,611	1,326,103	37,013	67.90	724,373	516,455	403,635
Florida East Coast, 12 mos.	763	11,953,838	5,719,600	17,673,438	2,976,212	3,960,187	212,656	66.00	6,836,814	5,511,463	4,411,535
Fort Smith & Western, Dec. 12 mos.	249	152,993	26,624	179,617	29,840	17,810	5,349	60.50	74,854	73,766	60,385
Fort Smith & Western, 12 mos.	249	1,554,814	245,568	1,800,382	342,332	320,823	62,537	74.20	492,899	426,429	252,843
Galveston Wharf Co., Dec. 12 mos.	13	.....	.....	.....	1,805,767	666,658	46,361	77.40	468,052	239,452	29,017
Galveston Wharf Co., 12 mos.	13	.....	.....	.....	1,805,767	666,658	46,361	77.40	468,052	239,452	29,017
Georgia R. R., Dec. 12 mos.	328	320,961	108,358	429,319	60,470	112,672	23,114	82.30	1,056,598	964,810	104,361
Georgia R. R., 12 mos.	328	4,388,943	1,171,236	5,560,179	690,482	1,994,552	267,232	82.30	1,056,598	964,810	104,361
Georgia & Florida, Dec. 12 mos.	406	116,556	23,311	140,200	22,556	7,717	8,228	73.10	40,178	33,748	20,563
Georgia & Florida, 12 mos.	406	1,443,451	234,301	1,677,752	228,848	240,342	101,506	74.40	455,196	377,180	213,622

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1924—CONTINUED

Name of road	Average mileage operated during period	Operating revenues			Operating expenses			Operating ratio	Net from railway operation	Operating income (or loss)	Net after rents, 1923	Net after rents, 1924
		Freight	Passenger	Total (inc. misc.)	Maintenance of way and structures	Traffic	Trans- portation					
Grand Trunk Western.....	Dec. 347	\$1,057,733	\$182,564	\$1,240,297	\$98,466	\$51,232	\$566,152	82.40	\$235,561	\$157,032	\$40,832	\$175,214
Atlantic & Saint Lawrence.....	12 mos. 347	14,509,360	2,304,454	17,813,814	4,516,077	554,752	7,099,136	83.50	2,934,889	1,907,479	179,479	1,500,501
Chic., Det. & Canada Gr. Tr. Jct.....	Dec. 166	242,271	28,691	270,962	73,000	7,000	141,000	103.10	8,946	27,112	70,039	74,039
Det., Grand Haven & Milwaukee.....	12 mos. 166	1,848,387	402,223	2,250,610	690,961	74,340	1,377,627	114.30	347,213	548,928	1,235,968	1,644,989
Great Northern.....	Dec. 59	202,457	8,344	210,801	15,735	6,718	98,815	46.70	130,612	116,471	90,160	182,491
Green Bay & Western.....	12 mos. 59	2,361,505	92,429	2,453,934	332,471	72,729	988,545	54.30	1,321,425	1,175,452	862,294	1,399,905
Gulf & Ship Island.....	Dec. 189	414,004	36,621	450,625	50,889	15,898	231,326	54.30	1,321,425	1,175,452	862,294	1,399,905
Gulf, Mobile & Northern.....	12 mos. 189	5,437,688	450,298	5,887,986	1,074,468	172,133	2,908,975	76.30	1,534,557	1,469,705	385,234	646,534
Hoeking Valley.....	Dec. 8,550	6,698,062	1,241,337	7,939,400	721,221	171,845	3,467,485	69.50	2,677,187	1,718,960	1,707,433	1,661,586
Illinois Central.....	12 mos. 8,551	86,144,671	13,683,383	99,828,054	17,102,587	2,086,736	39,064,819	68.20	35,031,046	24,761,037	24,201,287	24,731,922
Illinois Central Combined.....	Dec. 234	119,935	11,127	131,062	13,402	3,748	63,559	68.90	43,607	32,070	21,938	22,766
Indiana Valley.....	12 mos. 234	1,260,305	146,816	1,407,121	279,890	42,370	547,656	76.50	350,576	256,504	191,772	121,487
Kansas City, Mexico & Orient.....	Dec. 307	222,176	44,854	267,030	81,510	9,284	92,625	91.80	24,917	12,934	19,598	119,795
Kan. City, Mex. & Orient of Tex.....	12 mos. 307	2,713,175	455,997	3,169,172	703,599	96,765	992,582	72.90	969,450	647,567	555,986	525,355
Kansas City Southern.....	Dec. 465	465,661	45,543	511,204	78,285	23,860	163,017	75.86	128,494	100,699	80,916	62,035
Kan. City, Tex. & Orient of Tex.....	12 mos. 465	5,392,374	461,310	5,853,684	1,014,371	264,239	1,886,357	71.72	1,721,741	1,375,047	1,211,976	955,307
Kan. City, Tex. & Orient of Tex.....	Dec. 348	1,047,470	77,027	1,124,497	130,580	14,861	433,759	78.60	258,978	153,153	260,117	8,363
Kan. City, Tex. & Orient of Tex.....	12 mos. 348	15,021,470	998,284	16,019,754	1,896,335	168,161	3,344,105	75.60	4,564,896	3,044,845	3,518,080	2,454,068
Kan. City, Tex. & Orient of Tex.....	Dec. 474	9,361,083	2,362,584	11,723,667	1,498,091	267,548	3,966,416	74.90	3,382,453	2,017,187	2,066,900	2,036,206
Kan. City, Tex. & Orient of Tex.....	12 mos. 474	115,048,063	25,335,815	140,383,878	20,304,135	2,502,638	55,441,751	77.70	33,866,817	22,477,517	23,761,649	22,906,244
Kan. City, Tex. & Orient of Tex.....	Dec. 1,380	1,573,284	401,051	1,974,335	341,780	25,337	729,029	69.80	637,183	517,590	486,427	405,061
Kan. City, Tex. & Orient of Tex.....	12 mos. 1,380	17,121,269	3,784,827	20,906,096	3,616,959	796,749	7,963,169	73.10	5,946,394	4,356,290	4,340,425	1,957,196
Kan. City, Tex. & Orient of Tex.....	Dec. 6,255	10,934,369	2,763,635	13,698,004	1,839,871	292,885	5,695,445	74.20	3,919,636	2,534,777	2,533,327	2,441,267
Kan. City, Tex. & Orient of Tex.....	12 mos. 6,255	132,169,332	29,120,642	161,289,974	23,921,030	2,792,407	63,404,920	77.10	39,813,211	27,033,816	28,102,074	24,863,440
Kan. City, Tex. & Orient of Tex.....	Dec. 272	202,577	9,863	212,440	85,738	6,751	92,332	102.00	6,071	228,705	7,899	107,572
Kan. City, Tex. & Orient of Tex.....	12 mos. 272	2,165,411	106,611	2,272,022	425,838	71,967	963,399	88.70	267,035	235,608	26,517	50,510
Kan. City, Tex. & Orient of Tex.....	Dec. 465	345,961	18,275	364,236	56,231	7,435	112,742	86.20	49,586	42,586	7,689	88,077
Kan. City, Tex. & Orient of Tex.....	12 mos. 465	2,420,900	155,862	2,576,762	545,593	77,391	957,490	83.10	450,888	381,933	168,719	70,610
Kan. City, Tex. & Orient of Tex.....	Dec. 773	1,061,139	157,492	1,218,631	227,419	47,946	491,167	83.80	227,172	154,649	144,717	44,191
Kan. City, Tex. & Orient of Tex.....	12 mos. 773	14,443,792	1,888,658	16,332,450	2,667,800	513,999	6,017,861	75.50	4,435,190	3,338,899	3,021,319	2,682,831
Kan. City, Tex. & Orient of Tex.....	Dec. 81	210,916	13,950	224,866	67,227	6,208	71,124	70.08	72,235	59,868	37,357	38,863
Kan. City, Tex. & Orient of Tex.....	12 mos. 81	2,483,893	166,161	2,650,054	269,594	63,169	776,465	53.70	1,352,994	1,142,482	843,057	854,269
Kan. City, Tex. & Orient of Tex.....	Dec. 314	181,527	10,988	192,515	45,369	8,257	74,047	83.40	32,976	15,390	1,383	88,870
Kan. City, Tex. & Orient of Tex.....	12 mos. 314	1,994,665	117,628	2,112,293	346,059	98,937	824,389	88.10	260,303	130,681	32,271	245,275
Kan. City, Tex. & Orient of Tex.....	Dec. 162	50,256	5,757	56,013	25,125	4,344	34,710	157.40	34,933	79,777	81,085	104,743
Kan. City, Tex. & Orient of Tex.....	12 mos. 162	1,552,327	52,356	1,604,683	442,674	6,221	543,473	74.50	461,104	275,117	251,166	538,423
Kan. City, Tex. & Orient of Tex.....	Dec. 13	.....	.....	.....	20,691	52,906	2,077	115.00	11,911	15,166	18,007	7,409
Kan. City, Tex. & Orient of Tex.....	12 mos. 13	.....	.....	.....	21,367	66,955	2,184	105.10	54,151	127,976	135,424	5,349
Kan. City, Tex. & Orient of Tex.....	Dec. 96	237,468	2,312	239,780	45,061	2,170	102,840	75.90	60,536	49,460	35,066	1,593
Kan. City, Tex. & Orient of Tex.....	12 mos. 96	2,985,679	377,719	3,363,398	412,948	20,666	1,163,127	71.20	906,560	740,542	449,960	589,987
Kan. City, Tex. & Orient of Tex.....	Dec. 219	400,030	1,767	401,797	229,723	5,024	140,509	109.00	126,624	37,304	26,058	84,553
Kan. City, Tex. & Orient of Tex.....	12 mos. 219	5,292,732	19,332	5,312,064	709,692	71,294	1,689,837	76.40	1,275,155	1,059,546	1,142,046	1,262,859
Kan. City, Tex. & Orient of Tex.....	Dec. 1,374	5,226,273	629,519	5,855,792	629,073	115,248	2,570,907	78.80	1,330,503	1,025,696	879,896	1,133,907
Kan. City, Tex. & Orient of Tex.....	12 mos. 1,374	63,552,307	7,688,392	71,240,699	8,421,393	1,400,377	30,558,447	79.80	15,406,837	12,189,751	11,391,549	6,573,120
Kan. City, Tex. & Orient of Tex.....	Dec. 302	291,428	31,945	323,373	87,433	10,492	98,223	78.00	73,263	57,684	41,124	75,827
Kan. City, Tex. & Orient of Tex.....	12 mos. 302	3,524,606	300,598	3,825,204	508,114	108,517	1,129,998	73.80	1,057,947	759,887	602,473	850,188
Kan. City, Tex. & Orient of Tex.....	Dec. 337	305,371	25,419	330,790	96,505	9,271	1,562,818	91.50	21,548	23,438	71,352	16,374
Kan. City, Tex. & Orient of Tex.....	12 mos. 337	3,652,900	283,649	3,936,549	701,967	126,166	1,667,087	89.40	435,810	187,074	255,291	129,678
Kan. City, Tex. & Orient of Tex.....	Dec. 206	115,318	12,924	128,242	17,346	3,155	51,197	73.70	35,723	13,175	2,781	1,911
Kan. City, Tex. & Orient of Tex.....	12 mos. 206	1,403,787	135,342	1,539,129	184,143	38,623	599,467	83.90	216,892	150,320	49,710	40,534
Kan. City, Tex. & Orient of Tex.....	Dec. 5,044	9,231,950	2,038,039	11,269,989	1,633,427	272,856	2,222,268	72.80	3,169,994	2,611,440	2,568,667	1,331,369
Kan. City, Tex. & Orient of Tex.....	12 mos. 5,044	103,038,568	23,846,817	126,885,385	19,792,804	3,173,417	27,653,867	79.10	28,378,780	22,154,034	22,291,374	20,673,143
Kan. City, Tex. & Orient of Tex.....	Dec. 199	233,006	56,885	289,891	54,191	7,849	99,417	64.20	111,449	88,189	77,421	63,486
Kan. City, Tex. & Orient of Tex.....	12 mos. 199	2,507,901	717,684	3,225,585	517,202	86,171	1,201,667	76.50	811,424	635,399	525,204	589,999
Kan. City, Tex. & Orient of Tex.....	Dec. 1,207	1,025,797	346,843	1,372,640	251,725	12,951	2,166,137	83.20	256,350	154,499	103,438	224,981
Kan. City, Tex. & Orient of Tex.....	12 mos. 1,207	14,132,556	4,281,826	18,414,382	3,321,444	167,434	8,574,988	81.90	3,649,795	2,428,548	2,307,681	1,983,142
Kan. City, Tex. & Orient of Tex.....	Dec. 364	331,230	53,542	384,772	35,996	8,007	155,166	76.30	94,066	82,018	66,318	122,177
Kan. City, Tex. & Orient of Tex.....	12 mos. 364	3,735,444	625,415	4,360,859	766,166	78,881	1,338,966	66.00	1,543,243	1,329,095	1,150,883	1,166,677
Kan. City, Tex. & Orient of Tex.....	Dec. 1,637	1,022,557	131,462	1,154,019	263,742	28,580	587,318	87.20	165,774	95,138	36,568	85,531
Kan. City, Tex. & Orient of Tex.....	12 mos. 1,637	12,834,316	1,414,677	14,248,993	3,854,374	337,935	6,777,132	66.40	550,134	194,898	95,951	85,531
Kan. City, Tex. & Orient of Tex.....	Dec. 4,403	3,052,002	529,358	3,581,360	508,420	63,263	740,821	81.40	725,898	454,377	245,716	702,545
Kan. City, Tex. & Orient of Tex.....	12 mos. 4,403	27,349,105	6,575,906	33,925,011	8,647,482	780,875	18,969,690	76.80	11,311,505	8,032,154	6,776,158	8,204,096
Kan. City, Tex. & Orient of Tex.....	Dec. 591	242,307	99,578	341,885	59,873	6,315	208,271	91.40	32,722	12,367	17,098	49,318
Kan. City, Tex. & Orient of Tex.....	12 mos. 591	4,238,378	1,125,739	5,364,117	1,008,596	76,302	2,560,774	81.10	1,115,570	748,246	445,046	606,570
Kan. City, Tex. & Orient of Tex.....	Dec. 165	53,182	14,645	67,827	24,013	3,165	32,793	101.10	776	4,243	10,447	13,476
Kan. City, Tex. & Orient of Tex.....	12 mos. 165	838,437	185,321	1,023,758	233,735	39,731	991,484	77.30	247,641	184,971	100,528	137,967
Kan. City, Tex. & Orient of Tex.....	Dec. 257	1,315,217	150,998	1,466,215	285,563	42,651	76,769	72.30	41,830	21,345	23,680	10,250
Kan. City, Tex. & Orient of Tex.....	12 mos. 257	1,615,217	185,632	1,800,849	341,120	75,659	513,547	71.90	521,508	420,785	469,102	284,533

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1924—CONTINUED

Name of road	Average mileage operated during period	Operating revenues			Operating expenses			Total	Operating ratio	Net from railway operation	Operating income (or loss)	Net after rents, 1923	Net after rents, 1924
		Freight	Passenger	Total	Maintenance of way and structures	Traffic	Transit						
Missouri & North Arkansas.....	Dec. 364	\$109,036	\$19,253	\$128,289	\$40,087	\$4,772	\$54,543	\$127,401	90.40	\$13,567	\$13,030	\$1,783	\$9,870
Missouri-Kansas-Texas.....	12 mos. 364	1,234,655	237,710	1,472,365	393,860	54,689	262,200	1,391,594	87.70	195,510	169,097	62,733	172,799
Missouri-Kansas-Texas.....	Dec. 1,799	2,378,034	477,372	2,855,406	3,118,836	609,467	856,375	2,018,554	64.70	1,100,282	903,227	72,750	1,176,504
Missouri-Kansas-Texas.....	12 mos. 1,803	26,468,310	5,381,981	31,850,291	34,488,364	6,352,262	9,278,817	23,356,467	67.70	11,131,897	8,507,484	8,912,952	7,533,554
Mo.-Kansas-Texas of Texas.....	Dec. 1,389	1,729,047	479,319	2,208,366	289,974	42,421	860,992	1,646,913	67.90	778,661	711,881	456,185	300,061
Missouri Pacific.....	12 mos. 1,389	15,863,394	5,075,090	20,938,484	22,820,981	3,151,652	3,727,799	16,375,567	71.80	6,445,414	5,822,736	3,674,546	2,176,504
Missouri Pacific.....	Dec. 7,336	8,850,486	1,467,107	10,317,593	1,597,781	221,023	4,435,391	8,865,863	79.10	2,339,898	1,439,549	1,439,549	866,398
Missouri Pacific.....	12 mos. 7,359	95,949,391	17,525,200	113,474,591	18,916,235	2,566,671	46,725,525	98,466,365	79.60	25,181,358	20,445,463	15,817,584	8,893,245
International-Great Northern.....	Dec. 1,159	1,236,263	234,332	1,470,595	181,721	35,161	544,365	1,042,424	63.83	590,755	543,214	437,316	231,241
International-Great Northern.....	12 mos. 1,159	12,673,345	2,600,576	15,273,921	2,999,926	62,336	6,112,184	12,955,240	76.65	3,946,208	3,499,097	2,683,511	1,776,504
Texas & Pacific.....	Dec. 1,952	2,308,513	719,444	3,027,957	4,608,936	60,239	1,188,958	9,117,242	67.70	1,069,585	889,571	794,154	813,545
Texas & Pacific.....	12 mos. 1,952	23,930,347	7,140,275	31,070,622	33,784,580	700,031	11,589,114	25,242,324	74.70	8,542,256	6,665,560	5,801,611	5,237,535
Mobile & Ohio.....	Dec. 1,161	1,277,609	161,511	1,439,120	280,659	57,527	557,548	1,223,642	79.80	309,367	230,161	206,896	167,234
Monongahela.....	12 mos. 1,161	16,512,633	1,842,690	18,355,323	19,464,381	2,847,032	7,466,967	14,290,401	73.40	5,173,980	4,105,541	3,532,155	2,695,009
Monongahela.....	Dec. 106	381,659	27,285	408,944	48,919	1,101	127,173	228,594	55.00	188,889	169,832	118,060	9,521
Monongahela.....	12 mos. 106	4,305,441	330,577	4,636,018	653,919	12,624	1,360,170	2,903,191	61.90	1,789,635	1,642,186	962,232	915,772
Monongahela Connecting.....	Dec. 7	.....	.....	.....	20,419	46,767	111,820	182,954	98.50	2,921	2,418	6,650	37,334
Montour.....	12 mos. 7	.....	.....	.....	1,949,109	274,386	4,527	1,033,661	94.70	108,504	48,149	17,780	167,390
Montour.....	Dec. 57	107,875	878	108,753	22,492	46,669	32,942	110,536	100.70	762	1,074	30,962	11,445
Montour.....	12 mos. 57	1,620,904	10,627	1,631,531	341,885	12,136	410,727	1,421,848	86.20	228,461	140,790	550,705	871,081
Nashville, Chattanooga & St. Louis.....	Dec. 1,258	1,386,063	410,548	1,796,611	231,253	94,228	718,965	1,512,259	76.90	454,784	422,639	400,035	158,756
Nashville, Chattanooga & St. Louis.....	12 mos. 1,258	17,044,426	4,815,185	21,859,611	3,573,811	914,280	8,806,185	19,480,969	82.50	4,120,677	3,465,104	3,433,767	3,061,971
Nevada Northern.....	Dec. 165	70,412	9,564	80,000	18,658	960	20,235	52,107	60.30	34,285	3,313	5,252	11,425
Nevada Northern.....	12 mos. 165	897,989	117,223	1,015,212	187,189	10,999	199,517	57,265	50.30	536,743	397,768	391,561	465,435
Newburgh & South Shore.....	Dec. 7	.....	.....	.....	20,480	32,373	44,245	102,096	53.80	87,524	61,044	73,972	31,079
New Orleans Great Northern.....	Dec. 274	185,067	28,842	213,909	36,153	6,309	65,057	1,692,945	83.80	325,040	150,637	208,358	104,004
New Orleans Great Northern.....	12 mos. 274	2,451,901	366,108	2,818,009	444,099	66,146	905,100	1,482,125	66.70	74,015	43,190	35,417	74,299
New York Central.....	Dec. 6,889	19,249,554	8,158,510	27,408,064	3,927,629	350,385	11,626,752	20,299,055	69.40	895,976	648,692	519,463	713,551
New York Central.....	12 mos. 6,889	227,359,008	95,980,325	323,339,333	46,450,387	7,207,781	13,751,519	279,970,071	75.70	7,286,787	5,464,103	5,509,824	2,944,876
New York Central.....	Dec. 244	407,034	11,510	418,544	22,336	3,889	121,048	220,793	52.30	201,219	161,021	121,337	99,834
Cincinnati Northern.....	12 mos. 244	4,599,255	135,698	4,734,953	8,826,932	67,081	1,589,630	3,165,833	65.60	1,561,099	1,373,353	936,296	838,257
Cleveland, Cin., Chic. & St. Louis.....	Dec. 2,418	5,515,393	1,430,230	6,945,623	769,628	116,860	2,764,626	5,337,733	71.40	2,141,392	1,641,278	1,560,793	493,944
Cleveland, Cin., Chic. & St. Louis.....	12 mos. 2,411	64,101,391	16,554,572	80,655,963	10,798,263	1,411,950	32,506,229	66,740,728	76.10	20,971,654	16,049,966	14,364,267	16,691,247
Indiana Harbor Belt.....	Dec. 116	.....	.....	.....	827,461	4,509	308,071	640,223	77.40	187,238	152,640	56,561	60,309
Indiana Harbor Belt.....	12 mos. 116	.....	.....	.....	10,778,697	55,334	4,758,680	8,149,377	75.60	2,629,330	2,298,890	862,297	1,483,821
Michigan Central.....	Dec. 1,862	4,651,606	1,751,221	6,402,827	1,477,604	114,031	2,469,613	5,263,673	73.70	1,877,578	1,367,470	1,386,242	662,219
Pittsburgh & Lake Erie.....	12 mos. 1,862	58,463,967	20,598,595	79,062,562	11,177,679	1,250,026	30,494,421	62,159,524	70.90	25,455,138	19,840,033	18,985,283	19,388,175
Pittsburgh & Lake Erie.....	Dec. 231	3,359,989	262,282	3,622,271	410,196	886,501	827,044	2,220,971	81.80	492,915	336,318	723,574	193,928
Pittsburgh & Lake Erie.....	12 mos. 232	27,160,766	3,091,841	30,252,607	4,564,537	281,398	10,138,400	25,590,148	81.40	5,831,915	3,919,542	1,466,221	15,574,595
New York, Chicago & St. Louis.....	Dec. 1,695	4,095,025	177,647	4,272,672	477,310	118,783	1,718,798	3,064,570	69.20	1,366,447	1,088,471	962,344	471,247
New York, Chicago & St. Louis.....	12 mos. 1,695	49,957,936	2,092,694	51,050,630	7,257,468	9,854,231	19,840,607	40,276,956	74.60	13,715,479	10,959,716	9,889,635	9,198,854
N. Y., New Haven & Hartford.....	Dec. 1,958	5,262,498	4,165,958	9,428,456	1,058,603	77,301	4,188,069	8,175,392	75.40	2,666,351	2,311,836	1,915,798	1,844,602
N. Y., New Haven & Hartford.....	12 mos. 1,985	63,432,140	49,670,377	113,102,517	15,919,488	817,441	47,941,947	97,430,323	76.60	29,733,375	24,904,426	19,787,279	13,277,728
Central New England.....	Dec. 292	674,606	116,933	791,539	99,427	108,697	228,825	455,965	64.40	251,964	234,685	194,903	51,671
Central New England.....	12 mos. 294	7,732,396	153,754	7,886,150	1,459,206	62,324	2,611,935	5,763,907	70.80	2,381,570	2,081,292	1,720,792	1,063,396
New York Connecting.....	Dec. 20	2,447,092	.....	2,447,092	332,511	.....	42,108	68,335	20.60	2,647,176	223,982	1,584,444	1,477,939
New York Connecting.....	12 mos. 20	.....	.....	.....	163,347	.....	551,001	904,011	29.20	2,187,635	1,716,591	1,287,007	1,477,939
New York, Ontario & Western.....	Dec. 569	717,890	100,199	818,089	135,179	17,369	479,631	878,033	88.50	113,850	97,706	63,326	98,114
New York, Ontario & Western.....	12 mos. 569	8,899,036	2,767,438	11,666,474	1,888,992	2,471,934	5,923,251	11,013,306	80.60	2,652,826	2,173,971	1,675,368	1,006,956
Norfolk and Western.....	Dec. 2,240	10,498,526	797,268	11,295,794	1,503,135	88,376	2,490,395	6,659,519	57.20	4,991,329	4,414,597	4,631,531	2,277,969
Norfolk and Western.....	12 mos. 2,240	84,795,438	8,990,026	93,785,464	14,801,044	1,054,806	29,216,853	69,872,213	71.50	27,837,580	20,423,721	22,468,428	19,877,677
Norfolk Southern.....	Dec. 931	591,362	103,916	695,278	70,476	22,960	313,031	539,307	72.50	204,600	161,533	131,009	151,796
Norfolk Southern.....	12 mos. 931	7,495,904	1,253,794	8,749,698	1,213,230	1,381,759	3,695,806	6,932,095	74.60	2,359,833	1,830,144	1,411,328	1,067,296
Norfolk Southern.....	Dec. 6,701	6,389,904	1,118,704	7,508,608	616,295	159,033	2,995,437	5,566,528	73.90	2,679,462	2,072,164	2,475,774	2,081,289
Norfolk Southern.....	12 mos. 6,679	73,422,540	13,167,942	86,590,482	12,240,855	1,917,955	34,090,334	70,433,064	77.00	24,859,340	16,296,186	19,901,077	17,100,557
Northwestern Pacific.....	Dec. 480	257,717	171,114	428,831	75,762	5,066	215,621	382,638	79.00	101,733	55,369	45,831	46,020
Northwestern Pacific.....	12 mos. 488	4,064,556	2,353,297	6,417,853	1,159,705	74,897	2,697,448	5,179,358	72.70	1,948,558	1,398,558	1,284,373	1,378,793
Pennsylvania R. R.....	Dec. 10,499	35,351,035	12,231,029	47,582,064	6,279,178	691,491	20,964,145	44,104,413	83.60	8,670,824	6,736,297	5,681,819	8,683,619
Pennsylvania R. R.....	12 mos. 10,499	440,567,310	147,553,905	588,121,215	74,025,530	7,846,321	250,364,384	17,222,321	80.20	127,848,503	97,480,202	79,103,112	83,546,667

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1924—CONTINUED

Name of road	Average mileage operated during period	Operating revenues			Operating expenses			Operating ratio	Net from railway operation	Operating income (or loss)	Net after rents	Net after rents, 1923
		Freight	Passenger	Total	Way and structures	Traffic	Trans- portation					
Baltimore, Chesapeake & Atlantic, Dec. 12 mos.	125	\$68,591	\$33,826	\$102,417	\$14,073	\$1,736	\$83,335	137.70	-\$41,170	-\$41,186	-\$43,012	-\$43,351
Baltimore, Chesapeake & Atlantic, Dec. 12 mos.	112	1,011,047	433,198	1,444,245	160,871	1,519,848	950,528	98.60	21,543	27,750	33,555	158,854
Long Island, Dec. 12 mos.	397	791,325	1,602,806	2,394,131	434,357	15,825	2,411,816	92.40	198,834	131,184	32,203	37,879
Long Island, Dec. 12 mos.	397	10,205,163	22,143,572	32,348,735	4,418,567	261,244	15,338,176	76.10	8,397,032	6,803,596	4,538,994	4,001,966
West Jersey & Seashore, Dec. 12 mos.	360	368,856	399,898	768,754	156,209	12,953	454,866	104.20	33,510	33,542	54,770	31,695
West Jersey & Seashore, Dec. 12 mos.	360	4,425,662	7,673,673	12,099,335	2,017,282	197,260	5,221,276	84.00	2,069,936	1,164,878	824,955	990,826
Peoria & Pekin Union, Dec. 12 mos.	19	29,626	4,577	34,203	23,117	893	84,143	82.70	29,169	4,169	18,692	80,903
Peoria & Pekin Union, Dec. 12 mos.	19	317,203	35,316	352,519	358,854	9,199	822,988	81.80	329,619	156,619	430,803	423,287
Pere Marquette, Dec. 12 mos.	2,265	2,221,812	390,626	2,612,438	316,842	51,920	1,282,820	76.90	772,198	644,371	502,827	476,363
Pittsburgh & Shawmut, Dec. 12 mos.	2,288	33,552,524	4,878,996	38,431,520	5,084,309	629,430	15,381,094	74.10	10,834,985	8,799,160	7,200,828	7,086,372
Pittsburgh & Shawmut, Dec. 12 mos.	102	116,863	5,856	122,719	14,567	1,403	36,404	76.80	28,933	28,833	37,096	17,704
Pittsburgh & Shawmut, Dec. 12 mos.	102	1,074,725	54,972	1,129,697	2,045,566	17,539	368,262	93.20	79,219	43,174	200,858	258,540
Pittsburgh & West Virginia, Dec. 12 mos.	92	300,135	8,717	308,852	25,083	6,608	75,329	61.20	132,656	102,803	162,801	107,557
Pittsburgh, Shawmut & Northern, Dec. 12 mos.	210	3,651,325	99,808	3,751,133	451,460	58,495	880,990	68.20	1,323,206	834,053	1,646,126	1,322,582
Pittsburgh, Shawmut & Northern, Dec. 12 mos.	210	139,490	4,075	143,565	18,207	1,683	59,221	207.20	157,781	163,102	166,309	45,401
Pittsburgh, Shawmut & Northern, Dec. 12 mos.	210	1,401,326	55,025	1,456,351	286,652	20,058	605,638	103.20	49,127	83,985	138,323	70,690
Quincy, Omaha & Kansas City, Dec. 12 mos.	250	58,834	19,572	78,406	25,067	655	42,293	102.70	2,389	8,188	11,973	6,506
Reading Company, Dec. 12 mos.	1,148	6,818,114	863,891	7,682,005	1,160,254	84,987	3,027,726	79.10	1,678,882	1,196,889	1,262,917	1,677,788
Reading Company, Dec. 12 mos.	1,148	77,786,153	10,187,574	87,973,727	11,289,010	640,987	34,030,945	76.30	21,781,702	17,491,674	18,967,742	26,655,426
Atlantic City, Dec. 12 mos.	169	132,377	124,206	256,583	154,622	3,027	175,816	139.10	106,797	142,185	171,221	267,854
Atlantic City, Dec. 12 mos.	169	1,501,223	3,017,305	4,518,528	1,317,817	95,135	4,299,096	90.60	448,181	177,005	157,100	150,901
Perkionon, Dec. 12 mos.	41	94,545	4,623	99,168	4,807	111	56,544	54.90	46,474	32,905	27,002	43,537
Perkionon, Dec. 12 mos.	41	1,097,343	72,702	1,170,045	109,708	1,301	520,395	58.50	504,123	440,487	373,115	345,194
Port Reading, Dec. 12 mos.	21	184,239	.....	184,239	6,997	229	71,153	39.00	140,100	121,923	64,378	6,311
Port Reading, Dec. 12 mos.	21	1,709,743	.....	1,709,743	257,426	2,748	830,865	57.10	928,012	758,160	64,818	286,594
Richmond, Fred'ksburg & Potomac, Dec. 12 mos.	117	411,278	380,458	791,736	181,700	9,979	3,341,016	67.20	344,575	286,485	226,527	222,365
Richmond, Fred'ksburg & Potomac, Dec. 12 mos.	117	5,722,893	4,056,379	9,779,272	1,400,131	109,798	3,931,088	66.70	3,941,011	3,272,544	2,627,875	2,811,336
Rutland, Dec. 12 mos.	413	281,806	108,406	390,212	113,422	9,301	238,022	98.00	10,345	15,534	39,056	1,956
Rutland, Dec. 12 mos.	413	3,660,331	1,406,716	5,067,047	1,261,700	106,935	2,700,615	84.10	1,033,055	735,324	799,608	868,143
St. Louis-San Francisco, Dec. 12 mos.	4,902	5,520,336	1,588,612	7,108,948	1,029,347	99,394	2,690,975	70.70	2,242,908	1,894,049	1,815,227	1,689,597
St. Louis-San Francisco, Dec. 12 mos.	4,760	62,048,394	18,002,560	80,050,954	10,985,648	1,166,477	29,021,464	70.40	25,417,984	20,864,443	20,589,138	18,484,458
Ft. Worth & Rio Grande, Dec. 12 mos.	233	99,866	26,888	126,754	26,223	3,161	67,525	86.60	18,906	13,267	2,033	22,902
Ft. Worth & Rio Grande, Dec. 12 mos.	233	1,094,650	303,571	1,398,221	264,382	44,436	700,514	88.50	177,452	128,952	13,483	41,873
St. Louis, San Francisco & Tex., Dec. 12 mos.	137	199,714	1,124	201,638	28,670	5,250	85,910	73.90	60,578	53,454	28,319	29,241
St. Louis, San Francisco & Tex., Dec. 12 mos.	137	1,777,371	171,397	1,948,768	302,906	57,914	723,899	73.70	535,702	504,662	221,909	36,800
St. Louis Southwestern, Dec. 12 mos.	969	1,531,457	184,792	1,716,249	194,852	49,479	449,159	62.70	674,670	577,665	475,100	432,220
St. Louis Southwestern, Dec. 12 mos.	969	15,467,940	1,806,755	17,274,695	2,394,804	582,865	4,621,012	67.50	5,932,312	5,003,892	4,160,359	6,111,138
St. Louis Southwestern of Tex., Dec. 12 mos.	807	632,273	99,851	732,124	156,488	22,691	293,911	85.20	117,024	76,108	117,579	109,050
St. Louis Southwestern of Tex., Dec. 12 mos.	807	6,315,561	1,112,174	7,427,735	1,338,179	265,222	3,149,490	95.50	366,066	41,510	526,011	546,337
San Antonio & Aransas Pass, Dec. 12 mos.	739	469,041	69,076	538,117	178,670	15,616	232,585	98.60	8,109	13,641	25,662	89,501
San Antonio & Aransas Pass, Dec. 12 mos.	739	6,083,854	879,075	6,962,929	1,575,031	140,951	2,689,282	84.50	1,149,541	946,494	752,237	849,287
San Antonio, Uvalde & Gulf, Dec. 12 mos.	317	70,623	24,930	95,553	17,997	4,456	47,288	78.60	325,550	282,276	140,761	117,264
Seaboard Air Line, Dec. 12 mos.	3,574	3,643,551	1,094,675	4,738,226	803,343	183,295	1,818,001	74.10	1,373,279	1,060,219	980,943	938,987
Seaboard Air Line, Dec. 12 mos.	3,574	38,293,401	9,809,309	48,102,710	7,846,670	1,713,306	19,974,912	77.50	11,996,559	9,536,196	9,013,514	7,957,963
Southern Ry., Dec. 12 mos.	6,868	8,636,737	2,888,379	11,525,116	1,416,257	241,380	4,154,061	65.80	4,314,969	3,600,426	3,404,750	2,914,870
Southern Ry., Dec. 12 mos.	6,868	99,842,143	31,083,146	130,925,289	19,556,826	2,703,532	50,056,192	72.10	39,811,840	32,059,735	30,442,720	28,128,137
Alabama Great Southern, Dec. 12 mos.	318	639,524	186,271	825,795	44,208	21,871	279,877	56.50	384,087	324,399	335,586	183,096
Alabama Great Southern, Dec. 12 mos.	318	7,401,183	2,065,295	9,466,478	1,439,796	248,618	3,178,774	72.70	2,758,178	2,199,967	2,487,078	2,460,543
Cin., New Orleans & Tex. Pacific, Dec. 12 mos.	338	1,284,533	438,462	1,722,995	159,938	44,323	584,920	66.00	624,843	508,410	497,827	401,960
Cin., New Orleans & Tex. Pacific, Dec. 12 mos.	338	16,624,457	4,143,293	20,767,750	3,126,750	481,575	6,479,175	69.60	6,673,855	5,676,947	5,574,443	4,856,576
Georgia Southern & Florida, Dec. 12 mos.	401	347,041	145,200	492,241	50,570	11,436	177,311	53.90	247,933	211,479	189,298	94,586
Georgia Southern & Florida, Dec. 12 mos.	401	3,373,847	1,411,705	4,785,552	808,603	115,991	1,862,460	69.70	1,347,534	1,168,268	860,916	633,021
New Orleans & Northeastern, Dec. 12 mos.	207	351,061	89,452	440,513	58,895	11,093	137,678	62.90	179,069	136,860	114,888	70,443
New Orleans & Northeastern, Dec. 12 mos.	207	4,232,178	1,007,444	5,239,622	784,133	135,978	1,700,872	68.80	1,769,483	1,298,914	1,186,211	874,101
Northern Alabama, Dec. 12 mos.	110	107,722	11,887	118,609	34,477	11,436	177,311	53.90	247,933	211,479	189,298	94,586
Northern Alabama, Dec. 12 mos.	110	1,284,127	149,349	1,433,476	234,998	28,202	484,343	47.00	624,647	565,168	431,100	308,171
Southern Pacific, Dec. 12 mos.	8,720	10,546,539	3,748,124	14,294,663	2,193,517	301,614	5,841,076	72.70	4,881,232	3,055,936	3,070,738	2,566,601
Southern Pacific, Dec. 12 mos.	7,425	130,455,775	42,392,570	172,848,345	26,032,159	3,490,333	65,957,420	70.30	57,093,355	40,814,102	38,594,648	45,860,134

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1924—CONTINUED

Name of road	Average mileage operated during period	Operating revenues			Operating expenses			Operating ratio	Net from railway operation	Operating income (or loss)	Net after rents	Net after 1923
		Freight	Passenger	Total	Traffic	Transportation	General					
Southern Pacific	12 mos.	10,340,575	42,392,570	52,733,145	3,490,333	65,951,420	31,134,274	66.03	16,601,871	16,601,871	16,601,871	16,601,871
Atlantic Steamship Lines	Dec. 12 mos.	559,991	37,128	597,119	21,590	883,196	33,196	149.80	359,090	359,090	359,090	359,090
Galveston, Harrisburg & S. Anlo	Dec. 12 mos.	1,486,591	419,834	1,906,425	240,337	851,058	377,428	99.20	96,706	96,706	96,706	96,706
Houston & Texas Central	Dec. 12 mos.	1,399,138	330,545	1,729,683	25,740	568,116	48,437	77.40	674,860	674,860	674,860	674,860
Houston East & West Texas	Dec. 12 mos.	1,492,829	315,735	1,808,564	316,669	508,456	520,195	74.50	4,004,870	4,004,870	4,004,870	4,004,870
Louisiana Western	Dec. 12 mos.	2,651,440	1,005,570	3,657,010	143,737	1,239,147	219,902	71.40	9,468	9,468	9,468	9,468
Morgan's L. & T. R. R. & S. S. Co.	Dec. 12 mos.	6,142,184	1,643,634	7,785,818	12,446	124,753	18,737	72.80	98,410	98,410	98,410	98,410
Texas & New Orleans	Dec. 12 mos.	620,070	174,255	794,325	16,455	325,831	24,027	78.80	179,205	179,205	179,205	179,205
Spokane, Portland & Seattle	Dec. 12 mos.	6,747,985	1,910,312	8,658,297	80,121	1,075,417	10,299	75.60	710,740	710,740	710,740	710,740
Tennessee Central	Dec. 12 mos.	193,112	38,170	231,282	6,942	97,403	10,299	73.70	113,831	113,831	113,831	113,831
Term. Railroad Assoc. of St. Louis	Dec. 12 mos.	2,313,373	495,477	2,808,850	11,667	1,856,309	107,891	70.90	1,483,136	1,483,136	1,483,136	1,483,136
East St. Louis Connecting	Dec. 12 mos.	1	1	2	15,525	7,905	2,390	54.60	92,561	92,561	92,561	92,561
St. Louis Merchants Bridge Term.	Dec. 12 mos.	1	1	2	22,300	11,150	2,976	55.70	987,477	987,477	987,477	987,477
St. Louis Transfer Ry.	Dec. 12 mos.	10,670	417,306	427,976	10,768	2,216,910	84,541	77.50	1,037,242	1,037,242	1,037,242	1,037,242
Toledo Peoria & Western	Dec. 12 mos.	1,352,139	417,306	1,769,445	159	41,468	1,397	78.40	15,243	15,243	15,243	15,243
Trinity & Brazos Valley	Dec. 12 mos.	530,755	18,401	549,156	4,136	159	1,397	83.80	52,561	52,561	52,561	52,561
Ulster & Delaware	Dec. 12 mos.	2,343,986	226,494	2,570,480	3,337	837,022	2,976	55.70	987,477	987,477	987,477	987,477
Union R. R. of Penna.	Dec. 12 mos.	5,921,065	1,345,019	7,266,084	881	207,585	6,884	71.40	118,462	118,462	118,462	118,462
Union Pacific	Dec. 12 mos.	83,591,219	17,290,308	100,881,527	10,768	2,216,910	84,541	77.50	1,037,242	1,037,242	1,037,242	1,037,242
Oregon Short Line	Dec. 12 mos.	2,024,141	364,383	2,388,524	4,136	159	1,397	83.80	52,561	52,561	52,561	52,561
Oregon Wash. R. R. & Nav. Co.	Dec. 12 mos.	2,083,515	4,968,782	7,052,297	1,940	447,572	14,554	53.80	659,703	659,703	659,703	659,703
Los Angeles & Salt Lake	Dec. 12 mos.	1,600,949	398,634	1,999,583	13,288	1,066,146	140,543	72.90	24,165	24,165	24,165	24,165
St. Joseph & Grand Island	Dec. 12 mos.	218,281,009	4,863,764	223,144,773	22,223	70,082	76,165	81.80	273,297	273,297	273,297	273,297
Utah	Dec. 12 mos.	1,321,822	388,341	1,710,163	369	425,977	13,200	98.90	8,451	8,451	8,451	8,451
Virginian	Dec. 12 mos.	1,577,673	4,892	1,582,565	2,646	5,004,753	109,502	92.10	851,972	851,972	851,972	851,972
Wabash	Dec. 12 mos.	4,382,324	812,961	5,195,285	50,788	11,213,166	108,786	73.80	9,157,246	9,157,246	9,157,246	9,157,246
Western Maryland	Dec. 12 mos.	51,546,110	9,328,465	60,874,575	550,788	11,213,166	108,786	73.80	9,157,246	9,157,246	9,157,246	9,157,246
Western Pacific	Dec. 12 mos.	1,461,409	237,966	1,699,375	78,600	6,143,852	4,115,014	78.60	6,143,852	6,143,852	6,143,852	6,143,852
Wheeling & Lake Erie	Dec. 12 mos.	17,404,950	817,157	18,222,107	69,500	715,283	66,801	81.50	356,908	356,908	356,908	356,908

T. & N. O. Operations to Be Separated from Ontario Government

Gradual separation of the Temiskaming & Northern Ontario Railway from the government of Ontario was intimated by G. Howard Ferguson, premier of that province, in the speech from the Throne read at the opening of the Ontario Legislature in Toronto last week. The success attending the operation of the road through the rich northern mining country last year was pointed out and it was stated that hereafter the commission directing that road for the Ontario government will be authorized to raise by way of loans the money required for capital purposes. The part of the speech from the Throne dealing with this matter reads:

"The extension of the provincial railway into additional mining areas promises to prove beneficial from the standpoint of the development of Northern Ontario as well as from that of the operation of the railway. Last year the system showed a balance of receipts over operating expenditures, and was able to contribute a substantial sum to the provincial revenues. My ministers propose that hereafter the commission shall be authorized to raise by way of loans the money required for capital purposes."

In this way the province will be relieved of all future responsibility for the financing of the road, and the interest charges on such loans will not come from the government as heretofore.

Burlington Gives Additional Warning at Crossings

Realizing that the increase in automobile, bus and truck transportation has increased the hazard of travel and multiplied the necessity for caution at grade crossings, the Chicago, Burlington & Quincy has taken action to give the public warning by means of additional whistling posts and an additional whistle lever in each locomotive cab.

At crossings where, from any unremovable cause, the view of drivers of vehicles or enginemen is limited, and where there has been a heavy increase in travel, additional whistling posts have been erected 600 ft. from the crossing. This intermediate post is so located that the crossing whistle signal will, when the train is moving at ordinary speed, continue until the locomotive is almost if not quite, at the crossing.

As a further provision for emergency warning, all passenger and freight locomotives are being equipped with a whistle lever located on the fireman's side of the engine, to be used by the fireman or brakeman in sounding a crossing whistle or alarm, should a vehicle or pedestrian approach the crossing from the fireman's side of the engine, out of range of vision of the engineer, and seemingly unaware of the approach of the train.

The action taken is just another step forward in "Safety First," and in a personal letter from the general managers, bespeaking the co-operation of all enginemen and trainmen, firemen and brakemen particularly, attention is called to the fact that success will depend to a great extent on their judgment and watchfulness.

Freight Rates Discussed in Parliament

Regulation of railway freight rates was the subject of many animated speeches in the Canadian Senate last week on the debate dealing with the subject matter of the speech from the Throne. In that speech mention was made of the intention of the government to propose some scheme of freight rate equalization. Senator J. P. B. Casgrain of Montreal, in the course of his speech, said:

"Regulating railway rates is a very serious matter, and it is again our friends from Western Canada who are always asking for lower rates, and they are not the people who are paying for it. We will take a concrete case with regard to railway rates. Take, for instance, the province of Saskatchewan. It is a large province, the banner province of the prairies, and it has a population almost equal to that of the city of Montreal. Saskatchewan wants a reduction of railway rates. But when there is such a reduction it must be remembered that the deficit of the Canadian National is increased and somebody must pay. Who is going to pay? It will not be Saskatchewan; for when you look at the amounts paid in income taxes you find that Saskatchewan pays \$2 per head whereas we in the province of Quebec pay \$10 and Ontario pays \$9.25. Ontario and Quebec are the two provinces who would have to pay for these reductions. And who has the railways? It is not the province of Quebec. They have four times more railways, according to population, than we have in Quebec. Saskatchewan, with a population nearly equal to that of

Montreal, has one and one-half times more railways than the entire province of Quebec."

Senator Watson: "Do not the Saskatchewan railways all pay?"

Senator Casgrain: "The Saskatchewan railways do not all pay. I would like my honorable friend not to say that, because E. W. Beatty, president of the Canadian Pacific, gave evidence under oath in this building that all lines west of the Great Lakes brought in \$8,000 a mile gross earnings, on the average, whereas all lines east of the Great Lakes brought in \$11,000 a mile average."

Senator McMeans: "It has been demonstrated in this House that there is not a branch line railway in the province of Manitoba or Saskatchewan that is not a paying branch. It is on these branch lines that the freight originates, and everyone knows that all these branch lines are paying. The province of Quebec is paying today for the City of Montreal which has reaped the benefit of all those rates on freight that is brought there by railways in which millions of dollars of the money of the people of Canada have been invested."

Senator Casgrain later concluded his speech by making it clear that if freight rates in Western Canada were lowered it would not only reduce the revenue of the Canadian Pacific but also increase the deficit of the Canadian National which would have to be made good by increasing the taxation of the people of the whole country.

Association Executives' Conference

W. L. Chandler, secretary of the National Association of Purchasing Agents, has sent out a call for a meeting of the Hotel Traymore, Atlantic City, February 27 and 28, at which it is hoped to effect a permanent organization of association executives, or as the call terms it, of an "association of associations." The meeting will be designated the Association Executives' Conference. Some 23 problems will be discussed in four section meetings. One of these sessions will discuss "Problems Relating to Increasing Membership" and will be presided over by E. R. Woodson, secretary of the Railway Account Officers' Association. Mr. Chandler's address is Woolworth building, New York.

Exhibitors at Railway Appliances Show

In the *Railway Age* of December 13, 1924, a list of 159 companies, which had been assigned space for the annual exhibit of the National Railway Appliances Association at Chicago, March 9-12, 1925, was published. This exhibit will be held at the same time as the twenty-sixth annual convention of the American Railway Engineering Association.

The National Railway Appliances Association has just issued a revised list of exhibitors, which includes the following names in addition to those published in the *Railway Age* of December 13, 1924.

Alan Wood Iron & Steel Company, Philadelphia, Pa.
Ames Shovel & Tool Company, Boston, Mass.
Burruss Grade Crossing Protection Company, Ft. Worth, Texas.
Chausse Oil Burner Company, Elkhart, Ind.
Dearborn Chemical Company, Chicago.
Edison Storage Battery Company, Orange, N. J.
Engineering News Record, New York.
Gustin-Bacon Manufacturing Company, Kansas City, Mo.
Hackmann Track Liner Company, Chicago.
Handian-Buck Manufacturing Company, St. Louis, Mo.
Hunter Railway Equipment Company, Buffalo, N. Y.
Layne & Bowler Company, Chicago.
Louisville Frog & Switch Company, Louisville, Ky.
MacRae's Blue Book Company, Chicago.
Milburn Company, The Alexander, Baltimore, Md.
Rife Engine Company, New York.
Robertson Company, H. H., Pittsburgh, Pa.
Sunbeam Electric Manufacturing Company, Evansville, Ind.
Wheeling Corrugating Company, Wheeling, W. Va.
Wood Conversion Company, Cluquet, Minn.
Zenith Shovel Company, The, Chicago.

Following is a list of associate members of the association who have not been awarded exhibit space:

American Abrasive Metals Company, New York.
Argyle Railway Supply Company, Chicago.
Canada Machinery Corporation, Ltd., Galt, Ont., Canada.
Channon Company, Chicago.
Corning Glass Works, Corning, N. Y.
Elliott Frog & Switch Company, East St. Louis, Ill.
Gannon Weed Cutter & Track Dresser Company, Farmington, Minn.
Gould Storage Battery Company, New York.
Huat Company, Robert W., Chicago.
Illinois Malleable Iron Company, Chicago.
Inland Steel Company, Chicago.
Lidgerwood Manufacturing Company, Chicago.
Osgood Company, The, Marion, Ohio.
Pettibone-Mulliken Company, Chicago.
Railroad Water & Coal Handling Company, Chicago.
Sauerman Brothers, Chicago.
Standard Underground Cable Company, Pittsburgh, Pa.

Traffic News

The Missouri Pacific has established through sleeping car service from St. Louis, Mo., to Mission, Tex., on the Gulf Coast Lines. The car leaves St. Louis at 6:45 p. m. on the Sunshine Special, and reaches Mission at 9:40 a. m. the second morning. Returning, it leaves Mission at 7 p. m. and arrives in St. Louis the second morning at 11:30.

Four-basket Crates for Fruits and Vegetables is the subject of a study which has been made by the Freight Container Bureau of the American Railway Association, and the results of this study, containing suggestions for manufacturers and shippers making or using such crates, are embodied in Freight Container Bureau Circular No. 18; and Freight Container Bureau Circular No. 19 contains similar information on six-basket crates.

Express Company Reduces Loss and Damage Record

The American Railway Express Company reports that its loss and damage account was reduced in 1924 to the lowest figure so far reached by that company; in fact, the showing is better both as to number of claims presented as compared with number of shipments handled, and amount paid as related to revenue, than the record of the old express companies for several years before the consolidation.

The comparison for four years shows:

	1921	1922	1923	1924
Number claims presented...	781,762	532,613	565,269	467,066
Number claims presented for each 1,000 shipments handled	4.02	2.96	2.98	2.57
Amount paid.....	\$13,224,593	\$5,088,374	\$5,281,538	\$4,193,229
Ratio of amount paid to revenue	4.49	1.75	1.71	1.46
Average salary cost per claim disposed of.....	\$1.29	\$1.18	\$1.09	\$1.19
Average number of days between presentation and payment	84	62	50	47
Total number claims placed in litigation during year..	5,933	4,546	4,294	1,631
Total amount of claims placed in litigation during year	\$1,188,894	\$703,988	\$672,154	\$397,882
Total number no mark shipments	23,197	24,099	31,559	22,228

The lowest ratio of amount paid as related to total operating revenue (1.46 per cent for 1924) is much higher than the corresponding figure covering railroad payments as reported by the Freight Claim Division of the American Railway Association; but the great bulk of the express business consists of l.c.l. shipments of highly valuable merchandise, whereas the railroads' figures are based on combination of the carload and l.c.l. business, much of the carload freight being raw material and other low-grade matter in connection with which the loss and damage feature is negligible. The express payments are more fairly to be compared with the payments on l.c.l. freight as related to l.c.l. revenue.

Royal Commission of Inquiry in Canadian Grain Trade

Railway rates in general received considerable attention in the important report of the Royal Commission inquiring into the grain trade in Western Canada which was tabled in the House of Commons at Ottawa last week. Reduction of freight rates on grain is dealt with and the report of the Commission, of which Judge W. F. A. Tyrgeon of Saskatchewan was chairman, quotes a railway officer as stating that any such reduction on the Canadian National lines is impracticable. It also declares that the Dominion Railway Board is the permanent competent tribunal to which all demands for specific increases and decreases in freight rates may be made and from which definite rulings may be obtained. The report dealt with the evidence before the Royal Commission by Vice-President J. E. Dalrymple of the Canadian National and pointed out that it would be politic for the Royal Grain Commission to leave the question of freight rates alone. Its summary of Mr. Dalrymple's evidence says:

"The effect of the evidence is that the suggested reduction in

rates on the Canadian National Railways is impracticable. Mr. Dalrymple was examined along the lines of the suggestion that export grain be carried from the head of the lakes to eastern Canadian ports on the basis of the Crow's Nest Pass rates now effective on grain hauled from interior points west to the lakes. His view on this question is:

"(1) That such a reduction would be met by equivalent reductions on American lines, including the lines from the lower lake ports to the seaboard, which would leave Quebec, for instance, in the relative position it is in today.

"(2) Figuring out the Crow's Nest rate basis to mean a rate of 15.60 cents per bushel on wheat from the head of the lakes to Quebec, he finds that the route via Buffalo to New York is still cheaper, even if no retaliatory reduction took place on the American lines, being 14.32 cents per bushel.

"(3) On the proposition placed before him by Commissioner Scott, that the rate to Quebec on a proper computation of the Crow's Nest basis would be 11 cents per bushel from Armstrong, he says that in his opinion the adoption of such a rate would surely bring about the aforesaid retaliatory reductions, and, moreover, that the revenues of the Canadian National Railways would not permit of such a reduction."

Port Authority Orders New York

Connecting Open to New York Central

The Port of New York Authority, in a decision made public this week, has notified the New York Connecting Railroad and its owners, the Pennsylvania and the New York, New Haven & Hartford, that the Connecting Railroad which, by way of the Hell Gate bridge, furnishes the only all-rail freight line to Long Island, must be made available at reasonable rates for shipments from the New York Central, whose freight tracks connect with the New Haven road near the northern terminus of the New York Connecting Railroad; and on the assumption that the only thing preventing the free movement of freight between the lines of the New York Central and those of the Long Island Railroad by means of this route is the prohibitive price charged, the Port Authority calls upon the roads named to come to an agreement with the New York Central, within 30 days, for the establishment of through freight tariffs and an equitable division of the rates in such tariffs.

The Hell Gate bridge freight route to and from Long Island was used, while the railroads were operated by the government, for the benefit of New York Central shipments on the same basis as for other roads, and the Port Authority calls for the same or a similar arrangement now. During government operation the charges made by the New York Connecting Railroad were about the same as those for lighterage in New York Harbor; that is to say, shipments were sent all-rail to Brooklyn and the Borough of Queens by rail at rates approximately equivalent to those charged for delivery by lighter; but since the termination of government operation the charges over the bridge have been greatly increased; to a point, says the Port Authority, which makes them prohibitive.

E. G. Buckland, vice-president of the New York, New Haven & Hartford, has issued a statement protesting that the New Haven already gives adequate all-rail freight service to and from Long Island and should not be called upon to share the traffic with a competitor. He says, in part:

"The New York, New Haven & Hartford earnestly desires to help the Port of New York Authority in carrying out its comprehensive plan and is in accord with its general policy. The New Haven favors all reasonable methods of doing away with unnecessary waste, of speeding up transportation and of giving where practicable more efficient and economical service. But it insists on the right to receive a fair return on all of its property devoted to transportation service, outside as well as inside the Port Authority territory. No carrier is required to short haul itself, and when business is brought to it as a result of short hauling the carrier is under no obligation to establish a through route or apply a joint rate. The only economic basis upon which the terminal owned by one carrier can be used by a competitive carrier is that the owning carrier shall receive from its competitor as much net revenue for the use of its terminal as it would have received if it had carried the competitive traffic. Anything else is a taking of the owning carrier's property without just compensation.

"If a carrier's right to the long haul is denied or seriously impaired it must raise all rates and invade the territory of other carriers with a resultant cut-throat policy of short hauling, impaired revenues and increased expenses."

Commission and Court News

Interstate Commerce Commission

The Interstate Commerce Commission on February 16 heard oral arguments in the interchangeable mileage book case, which was reopened after the commission's original order in the case was enjoined.

The commission on February 16 refused to permit the Chicago & North Western to increase re-shipping rates on grain and grain products in carloads from Kansas City, Mo., and Kansas City, Kans., to points on that road in Iowa.

Port Differential Complaints Dismissed

The Interstate Commerce Commission in a decision dated February 3, made public on February 13, has dismissed three complaints filed by various civic and commercial bodies of Boston, Fall River and New Bedford, Mass., New London, Conn., Portland, Me., and Providence, R. I., asking for an equalization of rates on import and export traffic to and from that portion of central territory known as differential territory, by the application of rates not exceeding those to and from other ports which now have differentials under the rates to and from Boston and New York. The commission held that the rates are not unreasonable or unduly prejudicial. Commissioner Campbell dissented. The complaints have been pending for nearly three years, the main complaint having been filed on February 28, 1922, and following a tentative report of an examiner recommending dismissal, the arguments before the commission were completed on May 23, 1923. Representatives of the complainants have announced that they intend to continue the fight and bills to accomplish the same purpose have recently been introduced in Congress.

The commission expressed the opinion, however, that the carriers should take steps to equalize the charges on export grain moving to the north Atlantic ports from points west of the Mississippi river, where the advantage of any one of the ports, as compared with Boston, in total length of haul, is 10 per cent or less; and also that no adequate reason exists for port differentials in favor of Philadelphia and Baltimore in the case of ex-lake grain in bulk from Buffalo for export.

Court News

No Duty of Lookout to Person

Sitting or Lying on Track

The Kentucky Court of Appeals holds that a railroad owes a child sitting or lying on the track no duty of lookout, even at a crossing where the railroad is required to maintain a lookout.—*L. & N. v. Vanover's Admr.* (Ky.) 262 S. W. 606.

Lack of Gates or Watchman Not Negligence

The Circuit Court of Appeals, Sixth Circuit, holds that a country highway crossing, on a branch railroad, with unobstructed view of the track, the highway being little used, was not "especially dangerous" or "more than ordinarily hazardous" so as to make lack of gates or watchman actionable negligence.—*Murphy v. Pennsylvania*, 1 Fed. (2nd) 929.

Duty as to Crossing Signal Held Complied With

Where the undisputed evidence in a crossing case showed that the railroad company maintained an automatic gong, that it was a standard appliance, dependable, and was working at the time in question, the Iowa Supreme Court held that it was error to instruct the jury that the operation of the train at a dangerous speed without some "proper and dependable" signal or device was negligence; such instruction might lead the jury to infer that the device installed was not a proper or dependable one.—*Langham v. Chicago, R. I. & P.* (Iowa) 198 N. W. 525.

Labor News

The Chicago, Milwaukee & St. Paul, the Chicago, St. Paul, Minneapolis & Omaha, the Chicago & Eastern Illinois, the Ft. Worth & Denver City and the Northern Pacific have recently signed agreements with the Brotherhood of Locomotive Engineers and the Brotherhood of Locomotive Firemen and Enginemen, granting to their engine service employees wage increases of approximately 6 per cent without changes in important working rules. The agreements are similar to that made first by the Southern Pacific and later by virtually all the larger western roads.

The Railroad Labor Board has ordered an election held on the Minneapolis, St. Paul & Sault Ste. Marie to determine whether the Soo Line Shop Employees' Association, a company union, or the railway employees' department of the American Federation of Labor shall represent certain classes of the shopmen. In an election held on December 10, 1923, the Soo Line Shop Employees' Association received a majority of the votes cast by the boiler makers, sheet metal workers, electricians and carmen but the Federated Shop Crafts received a majority of the votes cast by machinists and blacksmiths. At that time the Labor Board ordered that the Soo Line Shop Employees' Association would represent the four crafts and the American Federation of Labor the other two. As this situation has resulted in prolonged discord, the board has ordered that the blacksmiths and machinists shall vote to determine whether they desire to continue to be represented by the organization other than the company union which represents the other four crafts.

Pennsylvania Confers with Telegraphers

One hundred and fifty elected representatives of the employees in the telegraph department of the Pennsylvania and representatives of the management from all parts of the system met in Philadelphia on February 19 for the purpose of completely extending the Pennsylvania plan of employees' representation to this department of the service for the consideration of grievances and wages and working conditions.

Heretofore the telegraphers have been the only relatively large group of employees on this road who did not have a reviewing committee for the settlement of controversial questions and other features of this plan negotiated with other classes of employees four years ago. Consequently, the negotiations now undertaken will make the establishment of employee representation System-wide.

Representatives of the management at the meeting will be: W. W. Atterbury, vice-president; Elisha Lee, vice-president; G. L. Peck, vice-president; all divisional vice-presidents and general managers, and other officers.

The employee representatives assembled at this conference were chosen at annual elections, the last of which was held on February 6. At that time representatives were elected to fill the places of those whose term of office expired this year (one-third of the total), and to fill other vacancies in the local committees. These local committees consist of three members for each division, and the local committees from all divisions will attend the meeting.

The program calls for negotiation of by-laws governing future nominating and election procedure, also the negotiation of a memorandum of understanding covering the settlement of all matters affecting these employees, through monthly meetings with division and general superintendents and general managers, and monthly meetings of a reviewing committee equally representative of management and men.

Labor Board Decisions

The Railroad Labor Board has decided that an employee who is regularly assigned to positions with Sundays off shall be paid time and one-half for work performed on Sundays while working temporarily in place of another employee whose relief day is other than Sunday. The employee shall not be required to lie off on the relief day of the employee whose position he is filling temporarily if he desires to work.—*Decision No. 2892.*

Foreign Railway News

Bermuda to Have a Railway

The Bermuda Railway Company, Ltd., has been incorporated at Hamilton, Bermuda, and will build a 22-mile, standard gage railroad, according to advices to the Philadelphia Public Ledger. It is said that rolling stock will consist of gasoline motor cars.

British Railways Establish Low Excursion Rates

LONDON

The British railways, in order to promote excursion traffic, have introduced special rates for day and half-day excursions for distances of over 80 miles. The new rates are about one-third less than ordinary excursion rates, which latter are considerably lower than straight fares.

Swiss Federal Railways' Earnings Improve

The Swiss Federal Railways in 1924 had gross earnings of 380,590,000 francs (Swiss franc = 19.3 cents) as against 348,170,000 in the previous year. Expenses decreased to 249,800,000 francs from 263,500,000 in 1923, leaving a net of 139,980,000 francs as against 117,940,000 in 1923.

Passengers handled increased to 95,440,000 in 1924 from 86,780,000 in 1923. Freight handled totaled 16,610,000 metric tons, as against 14,660,000 in 1923.

Large Single-Phase Locomotives for Switzerland

The Loetschberg Railway (Switzerland) has just placed an order with the Société Anonyme des Ateliers de Sécheron, of Geneva, for two large single-phase locomotives. Each of these engines is to be rated at 4,200 hp., on the one-hour basis, and they will be the largest locomotives equipped with single-phase motors. They are to be used for freight and passenger service, and will be employed more particularly on the mountainous part of the railway, between Frutigen and Kandersteg. They are to be designed for a normal speed of 31 m.p.h., and a maximum speed of 46.6 m.p.h., the load on the driving axles being 19 metric tons. Trains weighing 560 metric tons, excluding the weight of the locomotive, will be hauled on a gradient of 2.7 per cent at a speed of 31 m.p.h. The locomotives will be of the 2-6-6-2 type with six twin motors, each capable of developing 700 hp. for one hour, thus giving a total output of 4,200 hp. Power will be transmitted to the driving wheels by means of an individual drive of the Sécheron type. Oil-immersed transformers are to be used for reducing the line pressure and for supplying a variable voltage to the driving motors, which will be controlled by means of electro-pneumatic contractors.

The principal dimensions, weights, and capacities of these new locomotives are as follows:

Length over buffers.....	20.200 meters
Diameter of driving wheels.....	1.350 meters
Number of twin motors.....	Six
One hour rating measured at the rim, at a speed of 31 miles per hour.....	4,200 hp.
Tractive effort measured at the wheel rim, one hour rating.....	22.6 metric tons
At starting.....	34 metric tons
Total weight of the mechanical parts.....	67 metric tons
Weight of electrical parts, including individual axle drive.....	68.5 metric tons
Total weight in service.....	135.5 metric tons
Adhesive weight.....	114 metric tons
Maximum speed.....	46.6 m.p.h.
Line voltage.....	15,000 volts
Frequency.....	16 2/3 cycles per second

The British Wage Controversy

LONDON

The general increases in pay for all classes of employees requested by the British railway unions have been refused by the companies, which request, on the contrary, reductions in wage rates.

It is considered likely that the controversy will be carried immediately to the Central Wages Board (which is a bi-partisan body and, consequently, likely to fail to decide the case because of a tie vote) and, failing a decision there, to the National Wages Board, a tri-partite body.

The unions had also asked for pensions for all employees at the age of 60.

The railways, in refusing the unions' demands and countering with requests for reductions, pointed to declining receipts, due largely to a decline in traffic, which were £3,112,200 less in 1924 than in 1923. The companies' statement says, among other things:

"The general managers of the railway companies, after giving careful consideration to the applications, met representatives of the trade unions today for the purpose of discussing the whole position. As a result of the meeting, the general managers informed the trade unions that the companies could not agree to an increase in present rates of pay, or an improvement in conditions of service involving increased costs. On the contrary, the railway companies have come to the conclusion that in existing circumstances they have no alternative but to press for a reduction of the present labor costs of the railways, and they submitted details of their proposals to the trade unions.

"Before the war the total wage bill of the railway companies amounted to £47,000,000 per annum. At the present time the railway wage bill, including the wages of the additional staff employed as a result of the reduction of hours granted during the period of government control, is at the rate of £120,000,000 per annum, or two and a half times the pre-war total, an increase of 155 per cent.

"The average rate of pay of railwaymen is approximately 115 per cent over pre-war. The average increase applicable to all industries is from 70 per cent to 75 per cent. The program which has been submitted by the trade unions is estimated to cost a further £45,000,000 per annum. If these demands were granted, it would bring the increase in the railway wage bill up to 250 per cent above pre-war. The railway companies are not in a position to make concessions on wages or conditions of service. If any such concessions are made, it must inevitably result in increased charges to the public."

Present wage rates, compared with the rates requested by the unions and those requested by the companies, are given (in shillings and pence = x/y) by the Times (London) as follows:

LONDON			
	Current rate*	Union's claim	Company's claim
Parcel porter	52/0	63/0-68/0	48/0
Shunter (Class 1).....	65/0	78/0	61/0
Station foreman	65/0	78/0	61/0
Yard foreman (Class 1).....	75/0	88/0	71/0
Guard (sixth year).....	65/0	78/0	61/0
Traffic regulator	80/0	108/0	76/0
Goods porter	52/0	63/0	48/0
Carter	55/0	73/0	51/0
Engine driver	72/0-90/0	16/0 a day	68/0-86/0
Fireman and assistant motorman..	57/0-72/0	12/6 a day	53/0-68/0
RURAL			
	Current rate	Union's claim	Company's claim
Parcel porter	52/0	60/0-65/0	46/0
Shunter (Class 1).....	65/0	75/0	59/0
Station foreman	65/0	75/0	59/0
Yard foreman (Class 1).....	75/0	85/0	69/0
Guards (sixth year).....	65/0	75/0	59/0
Traffic regulators	80/0	105/0	74/0
Goods porter	48/0	60/0	42/0
Carter	51/0	70/0	45/0
Engine driver	72/0-90/0	16/0 a day	66/0-84/0
Foreman and assistant motorman..	57/0-72/0	12/6 a day	51/0-66/0

*Actual rates are higher for some grades of employees than those given in the table where the cost of living bonus is in effect.

There are three unions in the railway field in England (in addition to those of mechanics, which also have members in other industries), viz.: the National Union of Railwaymen, the Railway Clerks' Association and the Associated Society of Locomotive Engineers and Firemen. The first has members in all classes of railway work and is, in a sense therefore, the rival of the other two. As a matter of fact, however, it works in harmony with the clerks' union but not with that of the enginemen. In fact, the enginemen's union did not join the other two in the request for pay increases. The companies' demand for reductions, however, will probably force this union into line in opposition with the other two.

Miscellaneous Notes

The following item has been received by the Bureau of Foreign and Domestic Commerce from a United States government representative in Italy:

New second class sleeping cars are being operated on the Italian State Railways by the Italian subsidiary of the Wagon Lits Company. The fast night train between Rome and Milan, via Sarzana and Pisa, formerly made up of two first class sleepers and first and second class passenger coaches, will be composed entirely of first and second class sleepers.

Equipment and Supplies

Locomotives

THE CENTRAL OF GEORGIA is inquiring for 5 Mountain type locomotives.

THE KANSAS CITY, MEXICO & ORIENT is inquiring for 4 Mikado type locomotives.

THE CARNEGIE STEEL COMPANY is inquiring for 3 six-wheel switching locomotives.

THE MIDLAND VALLEY has ordered 5 Mikado type locomotives from the Baldwin Locomotive Works.

THE SOUTHERN PACIFIC has ordered one rotary snow plow from the American Locomotive Company.

THE UNITY RAILROAD has ordered one Consolidation type locomotive from the Baldwin Locomotive Works.

THE TATUM LUMBER COMPANY has ordered one Mikado type locomotive from the Baldwin Locomotive Works.

THE CHICAGO, BURLINGTON & QUENY is expected to enter the market for from 8 to 10 Mikado type locomotives.

THE DENVER & RIO GRANDE WESTERN has ordered 10 narrow-gauge Mountain type locomotives from the Baldwin Locomotive Works.

THE CHICAGO, ROCK ISLAND & PACIFIC, reported in the *Railway Age* of February 14 as contemplating the purchase of 10, 2-10-2 type locomotives, is now inquiring for this equipment.

THE CORNWALL RAILROAD has ordered one Consolidation type locomotive from the Baldwin Locomotive Works. Inquiry for this locomotive was reported in the *Railway Age* of January 17.

THE ST. LOUIS-SAN FRANCISCO has ordered 15 Mikado type and 5 Mountain type locomotives from the Baldwin Locomotive Works. This company was reported in the *Railway Age* of January 31 as inquiring for 25 Mikado type and 5 Mountain type locomotives.

Freight Cars

THE CANADIAN PACIFIC is inquiring for prices on the repair of 1,200 cars.

SWIFT & COMPANY, Chicago, is inquiring for 300 refrigerator cars and 300 underframes.

THE CRAIG OIL COMPANY, Toledo, Ohio, has ordered 15 tank cars from the Standard Tank Car Company.

THE QUAKER CITY TANK LINE has ordered 200 tank cars of 10,000 gal. capacity from the American Car & Foundry Company.

THE GENERAL REFRACTORIES COMPANY has ordered 20 narrow-gauge steel hopper cars from the American Car & Foundry Company.

THE AMERICAN ROLLING MILL COMPANY has ordered 3 steel ore cars of 75 tons' capacity from the American Car & Foundry Company.

THE WAITE PHILLIPS COMPANY, Tulsa, Okla., has ordered 50 insulated tank cars of 8,050 gal. capacity from the Standard Tank Car Company.

THE REPUBLIC IRON & STEEL COMPANY is inquiring for 4 steel gondola car bodies of 55 tons' capacity and 4 steel gondola car bodies of 70 tons' capacity.

THE INTERNATIONAL RAILWAYS OF CENTRAL AMERICA have placed an order in the United States for 60 flat cars of 20 tons' capacity for service in Guatemala.

THE SOUTHERN PACIFIC has ordered 400 Hart selective ballast cars from the Rodger Ballast Car Company; deliveries of these cars to commence about May, 1925.

THE CANADIAN SALT COMPANY, LTD., Windsor, Ont., has ordered 5 tank cars with 15-ton capacity chloride tanks, from the American Car & Foundry Company.

THE VICTORIA RAILWAYS (Australia) have ordered 2 gondola cars, 2 flat cars and 12 hopper cars of 40 tons' capacity, and 2 Louvre cars from the American Car & Foundry Company.

THE HURON PORTLAND CEMENT COMPANY has ordered 5 steel hopper ore cars of 50 tons' capacity from the National Dump Car Company and the American Car & Foundry Company.

THE SEABOARD AIR LINE has ordered from the Richmond Car Works 80 underframes for cabooses which it will build in its own shops. Inquiry for this equipment was reported in the *Railway Age* of January 10.

Passenger Cars

THE NORTHERN PACIFIC is inquiring for 10 observation cars.

THE READING COMPANY has placed an order for one Brill-Westinghouse gas-electric car.

THE SOUTH AFRICAN RAILWAYS are inquiring for 6 first-class coaches, 2 third-class coaches, 39 first-class side-door suburban coaches and 21 second-class side-door suburban coaches.

Iron and Steel

THE LEHIGH & NEW ENGLAND has ordered from the McClintic-Marshall Company about 200 tons of structural steel for bridge work.

Miscellaneous

THE PENNSYLVANIA will install with company forces a telephone dispatching system and telephone message circuit from Chicago to Logansport, Ind., and Logansport to Bernice, including the Effner branch, at a cost of \$77,000.

A MEMORANDUM containing fourteen recommendations regarding federal legislation was submitted last week to Premier Mackenzie King at Ottawa by the Canadian railway brotherhoods. At the outset the memorandum states that the brotherhoods are heartily in accord with the proposal of the government to limit the veto power of the appointed Canadian Senate.

"We suggest," adds the memorandum, "that, pending the necessary legislation for an elective Senate, the British North America Act be amended by eliminating the property qualification of \$4,000." The creation and maintenance of a fund for the purpose of meeting losses to depositors occasioned by the failure of chartered banks is recommended. A number of amendments to the Dominion Elections Act are also suggested in the memorandum. One of these suggested changes would provide that nothing shall prohibit a Labor organization, as such, from contributing to a federal election campaign fund, or collecting from its membership voluntary subscriptions for such purposes and for defraying legitimate election expenses. As an alternative it is suggested that the part of the Dominion Elections Act referring to deposits be so amended that the deposits be returned to all candidates within ten days after the successful candidate is declared elected, regardless of the number of votes cast for the candidates.

Amendment of the Immigration Act is also sought. By section 41 of that measure there is provided deportation of persons without trial by jury if they are members of "red" societies. "We respectfully submit," says the memorandum, "that this legislation is an attack on the liberty of British subjects, and uncalled for curtailment of the rights to due process of law hitherto practiced in Canada and the British Empire." Some change in the legislation regarding arbitration of disputes between employers and employees are also asked.

Supply Trade News

Louis O. Cameron has been appointed district representative of the **General American Car Company**, with headquarters at Washington, D. C.

T. S. Leake, president and founder of the **T. S. Leake Construction Company**, general contractors, Chicago, since 1908, has retired and turned the business over to his employees who



T. S. Leake

have been with him since 1911. Under the new organization, J. H. Wylie, secretary, will be president and treasurer, J. D. Leake, vice-president, will remain in that capacity, and John Larson, estimating engineer, will be secretary. C. O. Congdon, chief engineer of both the T. S. Leake Construction Company and the Railroad Water & Coal Handling Company since 1923, will devote his entire attention to the Railroad Water & Coal Handling Company, which will now operate independently of the T. S. Leake Company, with M. D. Miller continuing as president.

T. S. Leake was born on August 9, 1860, in Ottawa, Ill., where he learned the carpenter trade and obtained his first employment with the Sanders Bros. Manufacturing Company. In 1880 he entered the employ of the Illinois Central as a carpenter in the building department at Chicago and in 1897

was promoted to superintendent of buildings for the system. He resigned from the Illinois Central in 1906 to enter the employ of the Missouri Pacific and the St. Louis, Iron Mountain & Southern as superintendent of buildings for both lines, with headquarters at St. Louis. He held this position until 1908 when he resigned to incorporate the T. S. Leake Construction Company, Chicago, of which company he has been president until his retirement.

J. H. Wylie was born on January 26, 1875, in

Plainfield, Ill. He started his business career in 1892 as private secretary to Judge John D. Caton, which position he held until 1896 when he entered the employ of Swift & Co., as assistant in the secretary's office at Chicago. In March, 1900, he resigned to enter the employ of the Illinois Central as assistant chief clerk to the superintendent of bridges which position he held until 1901 when he was made chief clerk to the master carpenter. In 1905 he was transferred to the chief engineer's office where he was placed in charge of the accounting and was appointed chief clerk to the engineer of bridges and buildings. In October, 1913, he resigned to enter the employ of the T. S. Leake Construction Company as office

manager, which position he held until 1916, when he was promoted to secretary of the T. S. Leake Construction Company and also secretary of the Railroad Water & Coal Handling Co., which position he has held until his recent promotion.

J. D. Leake was born on November 7, 1890, in Chicago, and was educated at the Northwestern Military Academy and St. Charles Military Academy at St. Charles, Mo. He started his business career in 1910 as timekeeper for the T. S. Leake Construction Company, and in 1921 was promoted to vice-president, which position he has held until the recent change.

John Larson was born on March 29, 1874, in Lund, Sweden, and came to America in 1892. During the following year he was employed by contractors as a carpenter and in 1893 he entered the employ of the Illinois Central as a carpenter in the building department, which position he held until 1901 when he was promoted to building inspector. From 1901 to 1903 he was in charge of building construction on the Des Moines, Iowa Falls & Northern (now a part of the Chicago, Rock Island & Pacific) and in the latter year he returned to the Illinois Central as building inspector, which position he held until 1906, when he resigned to enter the employ of the Missouri Pacific as general building inspector. In 1911 he entered the employ of the T. S. Leake Construction Company as estimating engineer, which position he has held until his recent promotion.

Paul Kircher, whose promotion to vice-president of the **Canadian Concrete Products Company, Ltd.**, with headquarters in the newly opened office at Room 312 Transportation building, Montreal, Que., was reported in the *Railway Age* of Feb. 14, was born on July 27, 1890, in Chicago, and was educated at the University of Illinois, where he received the degree of A. B. in 1911, the degree of B. S. in civil engineering in 1912 and the degree of C. E. in 1918. From June to September, 1911, he was employed as a chainman for the city and county surveyor in Chicago. From December, 1912, to March, 1913, he was a rodman in the city engineer's office at Chicago. From the latter date until August,



Paul Kircher

1924, he held the position of chainman, rodman and instrumentman, resigning on the latter date to enter the employ of the Illinois Central as a draftsman. In November, 1916, he resigned from this position to enter the employ of the Universal Portland Cement Company, Chicago, as an engineer in the promotion bureau, which position he held until October, 1917, when he entered the employ of the Massey Concrete Products Corporation as office manager. He held the latter position until February, 1919, when he was promoted to sales manager, which position he held until May, 1919, when he was appointed resident manager of the Massey Concrete Products Corporation and the Canadian Concrete Products Company, Ltd. In August, 1920, he was promoted to manager of the pole department of the Massey Concrete Products Corporation and resident manager of the Canadian Concrete Products Company, Ltd., which position he has held until his recent promotion. In addition to being vice-president of the Canadian Concrete Products Company, Ltd., he is resident manager of the Union Switch & Signal Company, and engineering advisor to the president of the Massey Concrete Products Corporation.

The Northwest Engineering Company, Chicago, has appointed **Borchert-Ingersoll, Inc.**, St. Paul, Minn., and **Girke-Robinson**, Davenport, Ia., territorial agents.

William R. Van Nortwick, who for the past seven years has been district sales manager at New York for the Roto



J. H. Wylie

Company, Hartford, Conn., has severed his connections with that company. Mr. Van Nortwick has opened offices at 50 Church street, New York, for the sale of material to buyers in the combustion field.

The Truscon Steel Company is preparing plans for the construction of a fabricating warehouse at San Francisco, Cal., to serve as a distributing center.

W. R. Danley is now president of The Roto Company, Hartford, Conn., makers of boiler tube cleaners. He succeeded as president J. D. Cherry, who died on January 3.

Lawrence Wilcox has been appointed representative in charge of the Columbus, Ohio, district of the Westinghouse Air Brake Company, to succeed S. D. Hutchins, deceased.

The Mid-West Forging Company, Chicago, is enlarging its works at Chicago Heights, Ill., by the addition of a steel building 50 by 120 ft. for manufacturing purposes, a steel building 40 by 70 ft. for steel storage and a warehouse 40 by 120 ft.

American Car & Foundry Company

At a special meeting of the board of directors of the American Car & Foundry Company, New York, on February 15, Herbert W. Wolff, vice-president of the company and G. R. Scanland were elected directors. Mr. Scanland, who has for years been auditor of the company, was elected also vice-president in charge of finances and accounts; S. A. Mallette, assistant treasurer, was elected treasurer to succeed S. S. DeLano, deceased; E. S. Block, assistant auditor was made auditor and Miss Alma E. Jackson was appointed assistant treasurer. Mr. Wolff will retain his office in Chicago and continue in charge of sales in that territory. The other officers will be located in New York.

G. R. Scanland, the new vice-president and director, was



G. R. Scanland



S. A. Mallette



E. S. Block



Miss Alma E. Jackson

born at Pittsfield, Ill., on May 8, 1877. He entered the employ of the American Car & Foundry Company as a clerk in the auditing department in 1899 and five years later was appointed local auditor of the Memphis district. In 1905 he was appointed traveling auditor and in December of the following year was elected assistant auditor. In November, 1917, Mr. Scanland was elected auditor, and now becomes vice-president in charge of finances and accounts and a director.

S. A. Mallette, the new treasurer, was born at Union City, Conn., in 1870. He served in the automatic block signal field after leaving school and joined the American Car & Foundry Company when it was organized in 1899. In 1905 he was elected assistant treasurer.

E. S. Block, who has been appointed auditor, was born at St. Louis, Mo., on August 31, 1879. He began work as a clerk in the general auditing department of the American Car & Foundry Company in 1900 and was appointed general bookkeeper in 1906. He was appointed traveling auditor in 1911 and in November, 1917, was elected assistant auditor.

Miss Alma E. Jackson, who has been appointed assistant treasurer, was born in Callaway county, Mo., and was educated in the public schools, graduating from the St. Louis high school in 1899. She began work with the American Car & Foundry Company in 1900 as a stenographer and now becomes assistant treasurer.

At a special meeting of the board of directors of the American Car & Foundry Export Company, New York, Oscar B. Cintas was elected a vice-president and director succeeding Charles S. Gawthrop, deceased. Mr. Cintas until his recent election was representative for the company in Cuba.

Lewis O. Cameron, Munsey building, Washington, D. C., has been appointed district representative of the General American Car Company, Chicago. Mr. Cameron will handle sales on the southeastern railroads. He was formerly with the Pressed Steel Car Company, and for the last few years has been representing railway equipment companies in Washington.

Willard D. Smith has been appointed manager of railroad sales of the Davis Boring Tool Company, St. Louis, Mo., effective March 1. C. C. Koeln, formerly in charge of production, has been transferred to the New York territory to take charge of eastern sales. Mr. Koeln should be addressed at the home office in St. Louis until his headquarters have been definitely located in the east.

Lima Locomotive Works

The annual report of the Lima Locomotive Works issued on Thursday showing sales in 1924 totaling \$14,577,135 and net income, after expenses and taxes of \$1,500,043. These results compare with sales in 1923 of \$20,286,868 and net income of \$2,402,605. After payment of dividends there was a final surplus in 1924 of \$655,815. The total surplus at the end

of the year amounted to \$4,671,691. Current assets on December 31 totaled \$8,607,747 against current liabilities of \$1,241,917.

Air Reduction Company

The Air Reduction Company reports for 1924 net earnings after all charges, depreciation and reserves for federal taxes of \$1,635,222 equal to \$8.56 per share on the outstanding stock. Gross income in 1924, amounting to \$9,204,836, declined 10 per cent from the gross of 1923, but was 31 per cent greater than in 1922. Final net profits after all charges and taxes were 23 per cent less than in 1923, but were 86 per cent more than in 1922.

Statement by C. E. Adams, president of the company, reads in part as follows:

"New oxygen plants were erected at Harrisburg, Pa., Birmingham, Ala., and Lima, Ohio. These plants came into production in June, August and September, respectively. The capacity of the oxygen plant at Baltimore was doubled during the summer. A new acetylene plant in Seattle, Wash., was completed in August.

"During the year all of the company's older oxygen plants were re-equipped with machinery designed in accordance with plans developed by the company's research engineers. These plant changes resulted in the standard production at all manufacturing points of oxygen 99.5 per cent pure, a quality heretofore unknown in commercial production of oxygen from air. This purer product is of the greatest economic importance to oxygen users.

"The company's plans for 1925 contemplate the erection of a new acetylene plant in Kansas City on a site already selected. Additional oxygen capacity will also be provided, but the exact locations have not yet been determined."

Locomotive Shipments in January

The following table gives the shipments of locomotives in January and unfilled orders as of February 1, with comparisons for earlier months, as compiled by the Department of Commerce from reports submitted by principal manufacturing plants:

Year and Month 1923	Locomotives					
	Shipments			Unfilled orders end of month		
	Total	Domestic	Foreign	Total	Domestic	Foreign
January	229	217	12	1,788	1,699	89
February	207	196	11	2,220	2,141	79
March	282	269	13	2,316	2,214	102
April	217	201	16	2,204	2,111	93
May	238	228	10	2,150	2,045	105
June	232	221	11	1,958	1,854	104
July	239	211	28	1,738	1,652	86
August	272	259	13	1,497	1,406	91
September	335	313	22	1,178	1,102	76
October	310	295	15	977	915	62
November	299	270	29	691	656	35
December	329	305	24	387	365	22
Total	3,189	2,985	204	.....	.....	...
1924						
January	151	147	4	376	344	32
February	99	92	7	499	466	33
March	132	128	4	534	494	40
April	73	63	10	640	586	54
May	111	93	18	643	589	54
June	145	134	11	531	462	69
July	140	130	10	483	416	67
August	139	121	18	361	306	55
September	104	79	25	386	333	53
October	96	78	18	462	398	64
November	133	123	10	397	331	66
December	142	132	10	431	358	73
Total	1,465	1,320	145	.....	.....	...
1925						
January	90	45	45	407	351	56

Baldwin Locomotive Works

The annual report of the Baldwin Locomotive Works for 1924 shows net earnings after charges of \$1,920,027, comparing with \$11,931,522 in 1923. The 1924 net earnings are the lowest to be reported since 1914. The company set aside \$600,000 for reserves and there was a surplus for the year of \$1,320,027. This surplus compared with \$916,464 for 1923 but in 1923 there was set aside for reserves the sum of \$8,215,058 and the \$2,800,000 dividends were paid from income, whereas in 1924, they were paid from reserves.

Gross sales in 1924 totaled \$26,080,352 as compared with \$102,762,075 in 1923. The 1924 gross sales were the smallest to be reported since 1915.

Summary of operations in 1924 and comparison with 1923 follows:

	1924	1923
Sales	\$26,080,352	\$102,762,075
Cost	26,437,172	92,577,320
Manufacturing profit	(loss) \$356,820	\$10,184,755
Other income	\$3,256,255	2,912,844
Gross profit	\$2,899,435	\$13,097,599
Deduct other expenses, etc.	979,408	1,166,077
Profit	\$1,920,027	\$11,931,522
Less reserves:		
For removals and taxes	.....	4,400,000
For dividends, 1924	.....	2,800,000
For depreciation	600,000	600,000
For deferred profit	.....	415,058
Total for reserves	.....	\$8,215,058
Profit	\$1,320,027	3,716,464
Dividends, 7 per cent on \$20,000,000 common and \$20,000,000 preferred stock	2,800,000	2,800,000
Paid from income in 1923 but from reserves in 1924	.....	.....
Surplus	.....	\$916,464

Obituary

Frank F. Coggin, New England manager of the Vapor Car Heating Company, Inc., Chicago, died at his home in Boston, Mass., on February 15.

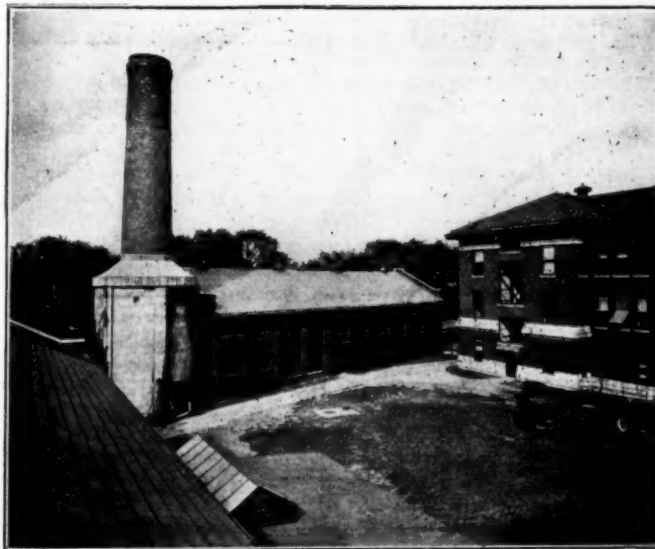
Alexander D. MacGill, vice-president in charge of finance of the Crane Company, Chicago, died on February 12 in Chicago. He was born in Erenock, Scotland, and came to America in 1865. In 1869 he entered the employ of the Crane Company as a billing clerk and five years later became a director of the company. In 1905 he was promoted from head of the cost department to treasurer, and in 1914 he was promoted to vice-president, which position he held until his death.

Trade Publications

POWER PLANTS.—A number of prominent power plants equipped with Bowser turbine oil purification systems are illustrated in a 24-page brochure, entitled "Representative Power Plants and How Their Turbine Oil Is Kept Continuously Fit for Service," which has been issued by S. F. Bowser & Co., Fort Wayne, Ind.

DESIGN AND CONTROL OF CONCRETE MIXTURES.—The Portland Cement Association has issued a 24-page bulletin which comprises a new exposition of the method of designing concrete mixtures founded on the findings of the Structural Materials Research Laboratory of Lewis Institute, Chicago. It presents an outline of the methods of determining the most economical proportions for concrete, taking into account such considerations as the water-cement ratio, the fineness modulus and the slump test. In addition to a detailed explanation of the method the bulletin contains tables and charts for convenient use and is illustrated with photographs showing how the various manipulations are carried out.

DUMP CARS.—Facts covering three basic designs of dump cars: the first, a car of the lifting door type; the second, a car of the lifting door type in combination with an outward folding chute, and the third, a car with an outward folding door, making the door of the car when in a dumped position a continuous slope in conjunction with the floor, are contained in Catalogue D, a neatly arranged booklet of 22 pages which has been published by the Magor Car Corporation, New York. Each of these three basic designs, subdivided into different cubical and weight capacities, depending on the service for which they are required, are illustrated in both loading and dumping positions. Lists of specialties with which the cars are equipped and specifications accompany the illustrations. Inserted between each page of descriptive data are blueprint drawings showing details of construction. The cars, which are of the automatic or hand operated type for standard or narrow gage roads, are built for railroad, mining, contractors or industrial service.



Locomotive Laboratory, University of Illinois

Railway Construction

ARIZONA EASTERN.—The Interstate Commerce Commission has issued an amended certificate authorizing the construction of the proposed line from Hassayampa to Dome, Ariz., so as to follow a different route from that originally proposed. The certificate states that as a result of further study the applicant has found that it would be difficult to maintain a bridge over the Gila river near Dome, and that a line following the location as originally proposed along the slopes of the Muggins mountains east of Dome would be difficult to maintain on account of cloudbursts and washouts. The carrier desires, therefore, to modify the location originally proposed, constructing its line on the south side of the Gila river and along the Southern Pacific as a second track thereof for 16 miles east of Dome to a point near Wellton station, thence at an angle from the Southern Pacific to a place on the Gila river that has been found suitable for a bridge, thence across the river and on to a point in the original location about 30 miles east of Dome, and thence along the route as first determined to Hassayampa.

CAMBRIA & INDIANA.—The Interstate Commerce Commission has issued a certificate authorizing this company to construct a 5-mile extension to its line beginning at Revloc, Cambria county, Pa., to cost approximately \$516,311. Work must begin before July 1, 1925, and be completed within a year from that date.

CHESAPEAKE & OHIO.—An appropriation of \$65,800 for the enlargement of the railroad Y. M. C. A. building at Peach Creek, W. Va., has been authorized. Authority has also been given for the construction of six storage warehouses and tracks to serve them at Morrison, Va., to cost approximately \$102,600. The latter project is virtually completed.

CHICAGO GREAT WESTERN.—This company has awarded a contract to the Railroad Water & Coal Handling Co., Chicago, for the construction of a 100-ton frame coaling station at Marshalltown, Ia., reported in the *Railway Age* of February 14.

ILLINOIS CENTRAL.—This company has awarded a contract to the Railroad Water & Coal Handling Company, Chicago, for the installation of its water supply facilities at Markham yard, Chicago, reported in the *Railway Age* of January 17. The project includes the construction of a pump house, the laying of 34,000 ft. of five-inch pipe line and the erection of five water tanks. The work will cost approximately \$195,000.

LOUISVILLE & NASHVILLE.—This company contemplates the construction of a large terminal at Leewood (Memphis), Tenn., for which preliminary plans are now being made.

MISSOURI PACIFIC.—This company plans the construction of a freight house at Omaha, Nebr., at a cost of approximately \$300,000.

MORRIS & ESSEX.—This company and the Delaware, Lackawanna & Western have been authorized by the Interstate Commerce Commission to construct a line from Kingsland station to Harrison, N. J., 6.77 miles.

NEW YORK, WESTCHESTER & BOSTON.—Dwight P. Robinson & Co. have been awarded contracts for the extension of this line from its present terminus at Larchmont, N. Y., to Mamaroneck, about 2 miles. The new construction will be double track, and will be equipped with overhead structures for 11,000-volt a.c. electric operation. The cost of the extension will be in excess of \$800,000. The Westchester is a subsidiary of the New Haven but will carry out the present work without assistance from the parent company. Extension to Harrison, Rye and Portchester is planned at some future time.

NEVADA-CALIFORNIA-OREGON.—This company is reported to be planning to apply to the Interstate Commerce Commission for permission to construct an extension from Lakeview, Ore., to Odell Junction, over 100 miles or to Bend, Ore., approximately 106 miles. The plans also include the widening of the present narrow-gauge line to standard gage. This is the third proposal to be made by railways for extensions into Southeastern Oregon. The Oregon

Trunk, owned by the Spokane, Portland & Seattle, has already announced the intention to extend its line from Bend south to Odell Junction, or even farther south to Klamath Falls, if trackage rights over the Southern Pacific line now under construction between Odell Junction and Klamath Falls are not secured. The third proposal of a new railway line in southern Oregon is embodied in the report of Examiner Kephart of the Interstate Commerce Commission, which recommended that the Union Pacific construct an extension from Bend to Odell Junction and thence to Lakeview.

PACIFIC FRUIT EXPRESS.—This company has awarded a contract to Rowland & Neison, Ogden, Utah, for the construction of car repair shops at Nampa, Idaho, reported in the *Railway Age* of November 29. The project is estimated to cost \$450,000.

PENNSYLVANIA.—A contract has been awarded to the Ferguson & Edmondson Company, Pittsburgh, Pa., for grading and track work at No. 1 Dock, Sandusky, Ohio, to cost approximately \$55,000.

SAN ANTONIO & ARANSAS PASS.—This company has awarded a contract to the Truscon Steel Company, Youngstown, Ohio, for the erection of the superstructure of a freight station at Yoakum, Tex., to cost \$30,000.

ST. LOUIS-KANSAS CITY SHORT LINE.—The incorporators of the proposed electric railway between St. Louis, Mo., and Kansas City, reported in the *Railway Age* of December 6, 1924, have applied to the Missouri Public Service Commission for permission to construct and operate the line. Since they were unwilling to disclose full details of their financial arrangements, the hearing was adjourned to March 5.

ST. LOUIS-SAN FRANCISCO.—This company contemplates the construction of a combined passenger station and general office building at Springfield, Mo.

TAMPA SOUTHERN.—This company has applied to the Interstate Commerce Commission for a certificate authorizing the construction of an extension from Sarasota to Fort Ogden, Fla., 39 miles, to be operated by the Atlantic Coast Line.

TEXAS & PACIFIC.—This company plans the construction of two freight yards in Dallas, Tex., one of which will have a capacity of 1,000 cars, at a combined cost estimated at \$1,500,000. Large freight yards are planned also for Shreveport, La., and Alexandria, and the facilities at New Orleans, La., are to be enlarged. A roundhouse at Shreveport is also planned and a roundhouse and repair shop are included in the Dallas project.

C. P. R. Will Soon Build Branches in Alberta

During his regular inspection tour of Alberta, Grant Hall, vice-president of the Canadian Pacific Railway, last week stated that that railway would in the near future proceed with its branch line development in Alberta.

"The Dominion Government has our application for running a line from Gardston to Glenwoodville," he said, "which is a stretch of about 30 miles, and from Woolford, in a southerly and easterly direction for about 15 miles. There are other branch lines which are receiving our consideration and a definite announcement will be made shortly."

When asked regarding the plans of his company in the Peace River country in northern Alberta Mr. Hall stated that the Canadian Pacific and Canadian National were now conferring to determine the most effective and most economical way of meeting the needs of that district.

"SAFE DRIVERS' CLUBS" for railroad employees and other persons who operate automobiles are proposed by the committee on the Prevention of Highway Crossing Accidents, of the Safety Section of the American Railway Association, in a circular which has been issued to the railroads by J. C. Caviston, secretary of the section. In view of the reduction in the number of automobile fatalities at crossings during the past summer, following the activities of the railroad safety organizations, and also because of the satisfactory results from the formation of safe drivers' clubs on certain railroads, the committee desires to see the early organization of such clubs all over the country. Mr. Caviston's circular outlines a plan for securing pledges from employees and other persons, and he names prices at which the committee proposes to furnish small metal signs suitable for attaching to automobiles. It is desired that orders for signs be sent in before March 15.

Railway Financial News

ANN ARBOR.—Bonds.—The Interstate Commerce Commission has authorized this company to procure authentication and delivery of \$1,530,000 6 per cent improvement and extension mortgage bonds to reimburse the treasury for capital expenditures aggregating \$1,530,793 between September 1, 1920, and July 1, 1924, to be held by the carrier until further order of the commission.

BALTIMORE & OHIO.—Bonds.—This company has applied to the Interstate Commerce Commission for authority to issue \$6,179,000 refunding and general mortgage 6 per cent bonds, series C; to cancel \$4,681,000 like bonds, series B and issue series C bonds in their place and to pledge \$10,860,000 series C bonds from time to time as collateral for notes.

BOSTON & MAINE.—Abandonment.—This company's applications for authority to abandon six branch lines in New Hampshire have been assigned for hearing before the Interstate Commerce Commission and the Public Service Commission of New Hampshire at Concord, N. H., on February 27, and the applications to abandon four lines in Massachusetts have been assigned for hearing before the interstate commission and the Department of Public Utilities of Massachusetts at Boston on February 25.

CENTRAL OF GEORGIA.—Equipment Trust.—This company has applied to the Interstate Commerce Commission for authority for an issue of \$1,410,000 of 4½ per cent equipment trust certificates to be sold at 96.14 to Kuhn, Loeb & Co.

CHICAGO & ALTON.—To Pay Interest.—The protective committee headed by Charles A. Peabody, chairman, formed to look after the interests of holders of the Chicago & Alton Railroad Company 3 per cent refunding 50-year gold bonds, have issued a notice to the effect that the receivers will pay the interest which became due on October 1, 1924, on the bonds of this issue, with interest thereon at 6 per cent.

The committee states that depositors should present their certificates of deposit promptly to the New York Trust Company, depository, or to the Illinois Merchants Trust Company, Chicago, sub-depository. Upon such presentation depositors who have not received an advance of the October 1, 1924, interest will receive such interest with interest thereon at 6 per cent to the date of payment by the receivers, and those who have already received an advance of the October 1, 1924, interest will be credited with the repayment thereof.

CHICAGO, MILWAUKEE & ST. PAUL.—Earnings.—The income account for the Chicago, Milwaukee & St. Paul for the year 1924 shows a deficit after charges of \$1,868,606. In 1923, the property had a net after charge of \$207,686. The 1924 statement with comparison for 1923, follows:

	1924	1923
Average miles operated.....	10,987	11,011
Railway operating revenues.....	\$158,366,458	\$169,628,338
Total operating expenses.....	125,550,061	134,999,228
Net revenue from railway operations.....	32,816,398	34,629,110
Per cent of expenses to revenues.....	79.28	79.59
Railway tax accruals.....	9,014,061	8,614,180
Equipment rents—net debit.....	3,290,607	4,400,584
Joint facility rents—net debit.....	1,411,793	1,443,522
Net railway operating income.....	18,972,106	20,167,713
Total non-operating income.....	1,775,942	1,710,996
Gross income.....	20,748,048	21,878,709
Rent for leased roads.....	1,053,166	947,230
Interest on funded debt.....	20,447,614	19,443,503
Interest on unfunded debt.....	273,055	586,161
Total deductions from gross income.....	\$22,616,654	\$21,671,023
Net deficit.....	1,868,606	*207,686

*Net income.

CHICAGO & WESTERN INDIANA.—Bond Issue Approved.—The Interstate Commerce Commission has authorized the proprietary companies, the Chicago & Eastern Illinois, the Chicago & Erie, the Wabash, the Grand Trunk Western, and the Chicago, Indianapolis & Louisville to assume obligation and liability in respect of \$27,755,000 Chicago & Western Indiana first and refunding mortgage bonds, recently sold.

CINCINNATI NORTHERN.—Dividend Increased.—The directors have declared a dividend of 5 per cent payable March 2 to

stock of record February 21. Previous dividends have been at the rate of 3 per cent semi-annually.

COLORADO & SOUTHERN.—Six Months' Guaranty.—The Interstate Commerce Commission has issued a final certificate to the Treasury placing the amount of this company's guaranty for the six months' period following federal control at \$990,035, of which \$505,035 remained to be paid on the final certificate.

CONEMAUGH & BLACK LICK.—Authorized to Issue Stock.—This company, organized in the interest of the Bethlehem Steel Company, and recently authorized by the Interstate Commerce Commission to acquire a railroad near Johnstown, Pa., and to build an extension thereto, has now been authorized by the commission to issue \$1,000,000 capital stock to be sold for cash at not less than par. See *Railway Age* of January 24, page 377.

DETROIT & IRLINGTON.—Bonds.—This company has applied to the Interstate Commerce Commission for authority to issue \$1,745,000 of first mortgage 5 per cent bonds to pay for the construction of a line from Flat Rock to Springwells, Mich.

DETROIT, TOLEDO & IRLINGTON.—Bonds.—This company has applied to the Interstate Commerce Commission for authority to issue \$1,181,000 of first mortgage bonds to pay the cost of constructing a second main track between Flat Rock, Mich., and Durban.

FLORIDA EAST COAST.—Equipment Trust.—The Interstate Commerce Commission has authorized this company to issue \$1,200,000 of 4½ per cent equipment trust certificates.

FREED VALLEY.—Abandonment.—The Interstate Commerce Commission has issued a certificate authorizing the abandonment of a line from Eagle Mills to Princeton, Ark., 25 miles.

HUNTINGDON & BROAD TOP MOUNTAIN.—Bonds.—The Interstate Commerce Commission has authorized this company to extend to April, 1940, the maturity dates of \$2,280,000 of bonds.

KANSAS CITY NORTHWESTERN.—Loan Denied.—The Interstate Commerce Commission has dismissed this company's application for a loan of \$2,355,731, to assist it in a reorganization and rehabilitation, on the ground that at the time the loan was originally applied for the company was not a carrier owning a railroad within the meaning of the terms of the law.

LAUREL FORK.—Abandonment.—The Interstate Commerce Commission has authorized the abandonment of this company's line, from Elizabethton to Frog Level, Tenn., 14 miles.

MISSOURI PACIFIC.—Equipment Trust.—This company has applied to the Interstate Commerce Commission for authority for an issue of \$8,820,000 of equipment trust certificates to be sold to Kuhn, Loeb & Co., at 98.46. These certificates have already been sold to the public.

NEW YORK, CHICAGO & ST. LOUIS.—Pere Marquette Approves.—Directors of the Pere Marquette have approved the lease of that road to the New York, Chicago & St. Louis. A special meeting of the stockholders has been called for March 21 at Detroit.

E. N. Brown, chairman of Pere Marquette, is authority for a statement that 67½ per cent of Pere Marquette stock has agreed to the lease.

NEW YORK, NEW HAVEN & HARTFORD.—Refunding.—See article on another page entitled "New Haven Sells Bonds to Patrons."

NORTHWESTERN PACIFIC.—Abandonment.—This company has applied to the Interstate Commerce Commission for authority to abandon a branch line from Duncan Hills to Markham, Calif., 2.46 miles.

PENNSYLVANIA.—Prepares to Increase Indebtedness.—The board of directors at a meeting on February 11 authorized the publication of the required 60-day notice that, at the annual meeting of stockholders on April 14, authority will be requested to increase the company's indebtedness.

The last occasion on which the directors requested authority to increase the company's indebtedness was in 1921, when \$100,000,000 was authorized. That sum has since been practically exhausted, in the ordinary conduct of the company's business, during the four years which have elapsed.

The new authorization will therefore be requested in order that the directors may be in a position to meet necessary requirements as they may arise. No immediate financing is in prospect, however, the request for additional authorization at this time is for the purpose of giving the board of directors the necessary latitude of action in handling the company's requirements from time to time.

PERE MARQUETTE.—Bonds.—The Interstate Commerce Commission has authorized an issue of \$7,814,000 of first mortgage 5 per cent gold bonds, to be pledged as security for short term notes.

ST. LOUIS-SAN FRANCISCO.—1924 Earnings.—The report of the St. Louis-San Francisco and subsidiary lines for 1924, shows a net income after charges and interest on the adjustment and income bonds totaling \$6,030,202, equivalent, after allowing for 6 per cent preferred dividends, to \$12.42 a share on the \$24,239,826 common stock in hands of the public. Net after charges in 1923 was \$3,762,858. The income account shows preferred dividends paid in 1924 of \$104,628. This represents the initial quarterly dividends of 1½ per cent payable November 1. An initial quarterly payment of 1¼ per cent was payable January 15, 1925, on the common.

Comparative figures for 1924 and 1923 follow:

	1924	1923
Gross	\$90,509,138	\$89,633,151
Operating expenses	64,092,011	65,934,619
Taxes, etc.	5,344,237	5,044,651
Operating income	\$21,072,890	\$18,653,881
Other income	611,063	451,827
Gross income	\$21,683,953	\$19,105,708
Fixed charges, rents, etc.	11,111,319	10,805,473
Adjustment bond interest	2,432,112	2,427,656
Income bond interest	2,110,320	2,109,720
Net income	\$6,030,202	\$3,762,859
Preferred dividends	104,628	.....
Surplus	\$5,925,574	\$3,762,859

Interest: The directors have declared the regular semi-annual interest installment of 3 per cent on the cumulative adjustment bonds, payable April 1.

WABASH.—Bonds.—This company has applied to the Interstate Commerce Commission for authority to issue \$12,500,000 of refunding and general mortgage 5½ per cent bonds, which have been sold to Kuhn, Loeb & Co., at 93. These bonds were offered to the public on February 5 as reported in the *Railway Age* of February 7.

Dividends Declared

Canadian Pacific.—Common, 2½ per cent, quarterly; preferred, 2 per cent, semi-annually; both payable April 1 to holders of record February 27.
 Chestnut Hill.—1½ per cent, quarterly, payable March 4 to holders of record February 20.
 Cincinnati Northern.—5 per cent, payable March 2 to holders of record February 21.
 North Pennsylvania.—2 per cent, quarterly, payable February 25 to holders of record February 17.
 Philadelphia, Germantown & Norristown.—3 per cent, quarterly, payable March 4 to holders of record February 20.
 Pittsburgh, Youngstown & Ashtabula.—Preferred, \$1.75, quarterly, payable March 2 to holders of record February 20.
 Southern Pacific.—\$1.50, quarterly, payable April 1 to holders of record February 27.
 Union Pacific.—Common, \$2.50, quarterly; preferred, \$2.00, semi-annually; both payable April 1 to holders of record February 28.

Trend of Railway Stock and Bond Prices

	Feb. 17	Feb. 10	Last Year
Average price of 20 representative railway stocks	81.07	82.78	61.61
Average price of 20 representative railway bonds	90.05	90.61	83.37

THE ATCHISON, TOPEKA & SANTA FE has acquired a tract of 9,000 acres of land 27 miles north of San Diego, Cal., which it has irrigated and improved through the expenditure of \$2,250,000. The land is irrigated by water from Lake Hodges, an artificial reservoir created by the erection of a dam and named for Walter Hodges, a vice-president of the road. The soil is particularly suitable for the cultivation of avocados, Valencia oranges, lemons, and other fruits. The tract is called the Rancho Santa Fe and land is now being sold in small tracts.

Twenty-five per cent of the 9,000 acres is reserved for country home sites with electricity and water available for every lot. There are 53 miles of surfaced roads traversing the entire property. Building restrictions in the country home site tract vary from \$5,000 to \$15,000. In addition there is a civic center comprising a community guest house, school, administration building, stores and domestic conveniences not usually found in newly developed districts.

Railway Officers

Executive

Woodward Hudson, vice-president and general counsel of the Boston & Maine, with headquarters at Boston, Mass., has resigned, effective March 31.

A. L. Horst has been appointed assistant to the president of the Cambria & Indiana, with headquarters at Philadelphia, Pa. Mr. Horst will have general supervision of all departments of the company.

W. L. Huggins, Jr., a former newspaper man, has been appointed assistant to the vice-president of the St. Louis-San Francisco, with headquarters at St. Louis, Mo. He will have charge of public relations, publicity and the St. Louis-San Francisco Magazine.

C. J. Smith, whose appointment as vice-president in charge of European and continental affairs of the Canadian National, with headquarters in London, England, was announced in the *Railway Age* of February 14, was born at Hamilton, Ont., in 1862 and was educated at the Hamilton High School and Wentworth College. He entered railway service in 1879 as a clerk in a local freight office of the Hamilton & North Western (now a part of the Canadian National) and a year later he entered the service of the Chicago & Alton in the auditing and purchasing department. Mr. Smith subsequently served consecutively: in the construction department of the Canadian Pacific, from 1882 to 1885; in the traffic department of the New York, Lake Erie & Western (now a part of the Erie), from 1885 to 1886; in the traffic department of the Minneapolis, St. Paul & Sault Ste. Marie, from 1886 to 1888; in the same department of the St. Paul, Minneapolis & Manitoba (now a part of the Great Northern), from 1888 to 1890; general freight and passenger agent of the Canada Atlantic (now a part of the Canadian National), from 1890 to 1898; general traffic manager of the same company and the Canada Atlantic Transit Company, from 1896 to 1904; general manager of the Richelieu & Ontario Navigation Company, from 1904 to 1912; vice-president and general manager of the Northern (now a part of the Canadian National), from 1912 to 1914; manager and secretary of the Montreal Warehousing Company and the Terminal Warehousing Company, from 1915 to 1923; general manager of elevators and warehouses of the Canadian National, from 1923 to 1924; and executive assistant to the president of the same company from February, 1924, until the time of his recent appointment as a vice-president of the company.



C. J. Smith

C. S. Stewart, whose promotion to assistant to the vice-president in charge of operation and maintenance of the Chicago & North Western, with headquarters at Chicago, was reported in the *Railway Age* of January 17, was born on May 3, 1885, at Waukegan, Ill. He entered railway service in April, 1902, as a clerk in the office of the ticket auditor of the Chicago & North Western and was transferred as a messenger to the superintendent's office in 1903. He was promoted to clerk in the superintendent's office in 1904 and held that position until 1907 when he was promoted to chief clerk.

Mr. Stewart was appointed special clerk in the office of the vice-president in 1912, where he remained until the beginning of federal control in 1918 when he was appointed chief clerk to the federal manager. He served as fire inspector from 1919 to 1920, being appointed chief clerk to the vice-president in charge of operation on March 1, 1920. He continued in that capacity until his recent promotion to assistant to the vice-president.

Financial, Legal and Accounting

H. H. Henderson, auditor of the Wheeling & Lake Erie, with headquarters at Cleveland, Ohio, has been promoted to comptroller, with the same headquarters, a newly created position. **J. A. McCort**, assistant auditor, with headquarters at Cleveland, has been promoted to auditor, with the same headquarters, succeeding Mr. Henderson.

Operating

A. C. McConnell, secretary and auditor of the Canadian National, with headquarters at Toronto, Ont., has been appointed assistant general manager and secretary of the Canadian National Telegraphs. **G. H. Renwick**, chief clerk to the assistant comptroller of the Central region of the Canadian National, with headquarters at Toronto, Ont., has been promoted to the position of auditor.

J. R. Derrick, assistant trainmaster of the Pocahontas division of the Norfolk & Western at Williamson, W. Va., has been promoted to assistant superintendent of the Radford division, with headquarters at Roanoke, Va., succeeding **J. B. Catron**, who has been transferred to the engineering and bridges department. **W. F. Perkins**, assistant road foreman of engines at Bluefield, W. Va., has been promoted to assistant trainmaster at Williamson, succeeding Mr. Derrick. **A. H. Tabor**, general yardmaster at Wilcoe, W. Va., has been promoted to assistant trainmaster at Eckman, W. Va.

Thomas C. Mulligan, whose appointment as manager of the marine department of the Central of New Jersey, with headquarters at New York, was announced in the *Railway Age*



T. C. Mulligan

of February 14, was born at Upper Lehigh, Pa., on August 20, 1882, and received a high school education. He entered railway service on February 27, 1899, with the Central of New Jersey as a clerk in the supervisor's office at White Haven, Pa., and in August of the following year he became a clerk in the supervisor's office at Jersey City, N. J. He was promoted to chief clerk in the same office in 1907 and in 1914 he became chief clerk in the office of the engineer maintenance of way, with headquarters at Jersey City. In 1918, he was appointed assistant chief clerk to the general manager of the Philadelphia & Reading (now Reading Company) and the Central of New Jersey and in 1920 Mr. Mulligan was promoted to chief clerk to the president and general manager of the Central of New Jersey. He became chief clerk to the general manager of the same company in 1922.

E. C. Bagwell, superintendent of the Alabama division of the Seaboard Air Line, with headquarters at Savannah, Ga., has been promoted to general superintendent of the Central district, with headquarters at Jacksonville, Fla., succeeding **P. G. Walton**, resigned. **S. M. Dutton**, trainmaster of the

Alabama division, with headquarters at Savannah, has been promoted to superintendent of the Alabama division, to succeed Mr. Bagwell. **L. C. Lorentzson** succeeds Mr. Dutton as trainmaster of the Alabama division. **J. H. Bowen** has been appointed assistant trainmaster of the Alabama division at Americus, Ga. The following have been appointed passenger trainmasters: **J. W. Thomas**, South Carolina division at Jacksonville, Fla.; **J. C. Stribling**, Florida division at Tampa, Fla.; **J. S. Haddock**, Virginia division at Raleigh, N. C., and **C. E. Matthews**, North Carolina division at Hamlet, N. C.

John H. Tonge, whose appointment as manager of the Washington Terminal Company, with headquarters at Washington, D. C., was announced in the *Railway Age* of February



J. H. Tonge

14, was born at Zanesville, Ohio, on October 10, 1866, and received a common school education. He entered railway service in 1882 as a student telegrapher on the Baltimore & Ohio at Newark, Ohio, and later served as telegraph operator at various points for the same company. He later served as telegraph operator on the Minneapolis & St. Louis, the Chicago, St. Paul, Minneapolis & Omaha and the Missouri Pacific and later in the general office of the Northern Pacific at St. Paul, Minn. From 1890 to 1903 he held the position of train dispatcher for the Chicago, Milwaukee & St. Paul at Minneapolis, Minn., the Baltimore & Ohio, the Chicago & North Western and the Union Pacific and in July, 1903, he entered the service of the Cumberland Valley (now a part of the Pennsylvania) as chief train dispatcher at Chambersburg, Pa. He was promoted to superintendent of that company in November, 1906, and during the period of federal control he served as general superintendent of the Potomac district. At the return of the roads to private management, in March, 1920, Mr. Tonge became superintendent of the Washington Terminal Company, with headquarters at Washington.

W. H. Strachan, whose promotion to general superintendent of the Eastern district of the Northern Pacific, with headquarters at St. Paul, Minn., was reported in the *Railway Age* of January 31, was born on July 22, 1863, at Toronto, Ont. He entered railway service in 1879 as a telegraph operator on the Illinois Central, in which capacity he later served the Burlington, Cedar Rapids & Northern (now a part of the Chicago, Rock Island & Pacific) and the Minneapolis, St. Paul & Sault Ste. Marie. He was later promoted to chief dispatcher on the Minneapolis, St. Paul & Sault Ste. Marie, which position he held until 1888, when he entered the service of the Northern Pacific as chief dispatcher. In 1890 Mr. Strachan was appointed a dispatcher on the Wisconsin Central, now a part of the Minneapolis, St. Paul & Sault Ste. Marie and was later promoted to chief dispatcher and trainmaster. He was appointed superintendent of the Minnesota & International in 1903, where he remained until 1910 when he was appointed assistant division superintendent on the Northern Pacific. He was promoted to superintendent of the Lake Superior division, with headquarters at Duluth, Minn., in May, 1914, and held that position until his recent promotion to general superintendent.

Traffic

J. J. McGraw has been appointed general freight and passenger agent of the Quincy, Omaha & Kansas City, with headquarters at Kansas City, Mo., succeeding **A. J. Bandy**, who has retired after 25 years of railway service.

F. P. Wagner has been appointed district passenger agent of the Chicago Great Western, with headquarters at New York, succeeding **J. P. Barrett**, who has resigned.

W. C. Curtiss, general agent of the Denver & Rio Grande Western, with headquarters at San Jose, Cal., has been transferred to Oakland, Cal., succeeding **W. H. Davenport**. **A. C. Potter**, general agent at Sacramento, Cal., has been transferred to San Jose, succeeding **Mr. Curtiss**. **C. W. Neubourg** has been appointed general agent at Sacramento, succeeding **Mr. Potter**.

Walter H. Dominick, whose promotion to general passenger agent of the Delaware, Lackawanna & Western, with headquarters at New York, was announced in the *Railway Age* of February 7, was born in New York on March 23, 1892, and was educated at Stuyvesant High School, N. Y., and Albany Business College. He entered railway service in May, 1910, as a stenographer in the passenger department of the Delaware, Lackawanna & Western and on January 1, 1911, he was promoted to rate clerk. He was promoted to chief rate clerk on September 1, 1914, and on January 1, 1918, he was promoted to the position of assistant superintendent of dining car service. On September 1 of the same year he was appointed secretary of the Consolidated Ticket Office Committee, Eastern Region, of the United States Railroad Administration and on April 1, 1920, following the termination of federal control, **Mr. Dominick** was appointed assistant general passenger agent of the Delaware, Lackawanna & Western, with headquarters at New York.

C. F. Keller whose promotion to coal freight agent of the Erie, with headquarters at New York, was announced in the *Railway Age* of February 7, was born at Paterson, N. J., and attended grammar and business school. He entered railway service on November 7, 1906, with the Erie as a stenographer in the office of the division engineer and on January 17 of the following year he was transferred to the general passenger department in the same capacity. From October 21, 1907, to March 1, 1908, he served as stenographer in the general manager's office and on the latter date he was transferred, in the same capacity, to the secretary's office. He was promoted to chief clerk in the maintenance-of-way department on December 1, 1908, and on August 15, 1910, he became a clerk in the general traffic department. On October 1, 1917, he was promoted to assistant managing clerk of the same department and on June 1, 1918, he was furloughed to become associated with the New York-New Jersey Port and Harbor Development Commission. **Mr. Keller** returned to the Erie on March 1, 1920, as chief clerk to the vice-president in charge of traffic.



C. F. Keller

Engineering, Maintenance of Way and Signaling

J. B. Catron, assistant superintendent of the Radford division of the Norfolk & Western, with headquarters at Roanoke, Va., has been appointed general bridge inspector, with the same headquarters, succeeding **J. R. Anderson**, deceased.

H. R. Clarke, whose promotion to general inspector of permanent way of the Chicago, Burlington & Quincy, with headquarters at Chicago, was reported in the *Railway Age* of January 31, was born on November 15, 1882, at Belfast, Ireland. He graduated from Monmouth College in 1906 and entered railway service in August of that year as a chainman

on the Missouri Pacific. He was employed by the Chicago, Burlington & Quincy as a rodman in June, 1907, and was promoted to instrumentman in August of that year. He was promoted to extra gang foreman in January, 1908, and in August, 1909, was promoted to resident engineer on construction. From May, 1911, until November, 1919, **Mr. Clarke** served as roadmaster on various divisions, on the latter date being promoted to general roadmaster of the McCook division. He was promoted to district engineer maintenance of way of the Nebraska district in November, 1919, and in August, 1921, was promoted to engineer maintenance of way of the lines west. **Mr. Clarke** continued in that position until his recent promotion to general inspector of permanent way.

J. R. Hickox, whose promotion to hydraulic engineer of the Chicago, Burlington & Quincy, with headquarters at Chicago, was reported in the *Railway Age* of January 10, was born on April 3, 1865, at South Britain, Conn., and graduated from Sheffield Scientific School, Yale University, in 1886. He entered railway service in July of that year in the engineering department of the Chicago, Burlington & Quincy, being assigned to location and construction work. He was later placed in charge of heavy construction work through Pine Ridge in northwestern Nebraska and in the Black Hills of South Dakota. From 1892 to 1898 **Mr. Hickox** engaged in irrigation work, after which he began the private practice of engineering in connection with mining and railroad work. In 1906 he supervised the construction of some large storage reservoirs for the Burlington in Wyoming, after which he was appointed engineer maintenance of way of the Wyoming district of the Burlington. In 1909 **Mr. Hickox** was appointed roadmaster, with headquarters at Sterling, Colo., and shortly after was promoted to trainmaster. He was promoted to principal assistant engineer, lines west, with headquarters at Lincoln, Nebr., in 1910, which position he held until his recent promotion to hydraulic engineer.



J. R. Hickox

Mechanical

E. C. Carey has been appointed assistant road foreman of engines of the Norfolk & Western, with headquarters at Bluefield, W. Va., succeeding **W. F. Perkins**, promoted.

T. M. Kirkby, mechanical assistant to the general superintendent of motive power of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, has been promoted to special representative, with the same headquarters.

Obituary

A. D. Shelton, formerly general superintendent of the Northern district of the Southern, Lines East, with headquarters at Danville, Va., who had been granted a leave of absence in October, 1924, on account of his health, died in a Richmond, Va., hospital on February 14, following an illness of several months. **Mr. Shelton** was born at Chatham, Va., on July 14, 1875, and entered railway service on February 10, 1890, as a messenger and clerk for the Richmond & Danville (now a part of the Southern) at Lynchburg, Va., and subsequently served as night chief dispatcher, chief dispatcher and trainmaster of the Southern. In 1910 he was promoted to superintendent of the Danville division and on October 16, 1920, he was promoted to general superintendent of the Northern district.